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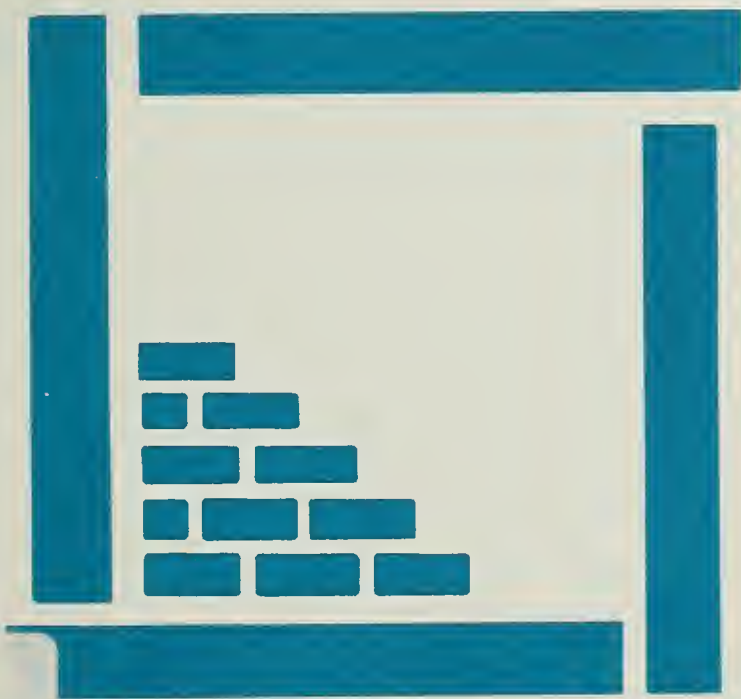
Census of Construction Industries

CC87-I-21

INDUSTRY SERIES

Structural Steel Erection Special Trade Contractors

Industry 1791



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Many persons participated in the various activities of the 1987 Census of Construction Industries.

The overall planning and review of the census operations were performed by the staff of the Office of the Assistant Director for Economic and Agriculture Censuses.

This report was prepared in the Construction Statistics Division. **Barry A. Rappaport**, Assistant Division Chief for Industry Surveys, was responsible for the overall planning, management, and coordination of the census of construction industries. Planning and implementation were under the direction of **A. William Visnansky**, Chief, Census Operations Branch, with primary staff assistance by **Juliana Van Berkum**, **Barbara J. Hadden**, **Edward R. Glover**, **Susan L. Hostetter**, **Shirley M. Baker**, and **Carolyn J. Stone**. Under the direction of **Jesse Pollock**, **Edward K. Ricketts** and **Dennis K. Duke** developed the sampling plans and variance and estimation specifications.

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If you have any questions concerning the statistics in this report, call (301) 763-7546.

1987

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Issued January 1990



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PURPOSE AND USES OF THE ECONOMIC CENSUSES

The economic censuses are the major source of facts about the structure and functioning of the Nation's economy. They provide essential information for government, business, industry, and the general public.

Economic censuses furnish an important part of the framework for such composite measures as the gross national product, input-output measures, production and price indexes, and other statistical series that measure short-term changes in economic conditions.

Policy-making agencies of the Federal Government use the data, especially in monitoring economic activity and providing assistance to business.

State and local governments use the data to assess business activities and tax bases within their jurisdictions and to develop programs to attract business.

Trade associations study trends in their own and competing industries, and keep their members informed of market changes.

Individual businesses use the data to locate potential markets and to analyze their own production and sales performance relative to industry or area averages.

AUTHORITY AND SCOPE

Title 13 of the United States Code (sections 131, 191, and 224) directs the Census Bureau to take the economic censuses every 5 years, covering years ending in 2 and 7. The 1987 Economic Censuses consist of the—

- Census of Retail Trade
- Census of Wholesale Trade
- Census of Service Industries
- Census of Transportation
- Census of Manufactures
- Census of Mineral Industries
- Census of Construction Industries

Special programs also cover enterprise statistics and minority-owned and women-owned businesses. (The 1987 Census of Agriculture and 1987 Census of Governments are conducted separately.) The next economic censuses are scheduled to be taken in 1993 covering the year 1992.

AVAILABILITY OF THE DATA

The results of each of the economic censuses are available in printed reports, for sale by the U.S. Government Printing Office, and on microfiche, computer tape, compact discs with read-only memory, and flexible diskettes, for sale by the Census Bureau. Order forms for all types of products are available on request from Customer Services, Census Bureau, Washington, DC 20233. A more complete description of publications being issued from this census is on the inside back cover of this document.

Census facts are also widely disseminated by trade associations, business journals, and newspapers. Volumes containing census statistics are available in most major public and college libraries. Finally, State Data Centers in every State and Business and Industry Data Centers in many States also supply economic census statistics.

WHAT'S NEW IN 1987

Several changes have taken place for the 1987 censuses. Data will be reported on the basis of the newly revised Standard Industrial Classification (SIC) system with selected reports including "bridge tables," linking the old and new classification systems. A new set of metropolitan

areas has been adopted, and more detailed information will be available for businesses with no paid employees. For additional information on these changes, review the subsequent text.

One important change involves receipts of contractors and builders. Prior to 1987, the Census of Construction Industries collected receipts as the primary measure of construction activity. For 1987, the census collected the "value of construction work done" to better measure actual construction activity done during the year. Differences between the two concepts occur when work is done in one year and payment received either from the prior or in the succeeding year. In addition, receipts do not include work a contractor performs for its own account and use.

HISTORICAL INFORMATION

The economic censuses have been taken together as an integrated program at 5-year intervals since 1967, and before that for 1963, 1958, and 1954. Prior to that time, the individual censuses were taken separately at varying intervals.

The economic censuses trace their beginnings to the 1810 Decennial Census, when questions on manufacturing were included with those for population. Coverage of economic activities was expanded for 1840 and subsequent censuses to include mining and some commercial activities. In 1902, Congress established a permanent Census Bureau and directed that a census of manufactures be taken every 5 years. The 1905 manufactures census was the first time a census was taken apart from the regular every-10-year population census.

The first census of business was taken in 1930, covering 1929. Initially it covered retail and wholesale trade, and construction industries, but it was broadened in 1933 to include some of the service trades.

The 1954 economic censuses were the first to be fully integrated—providing comparable census data across economic sectors, using consistent time periods, concepts, definitions, classifications, and reporting units. These were the first censuses to be taken by mail, using lists of firms provided by the administrative records of other federal agencies. Since 1963, administrative records have also been used to provide basic statistics as well for very small firms, reducing or eliminating the need to send them census questionnaires. The Enterprise Statistics Program, which publishes combined data from the economic censuses, was made possible with the implementation of the integrated census program in 1954.

The range of industries covered in the economic censuses has continued to expand. The Census of Construction Industries began on a regular basis in 1967, and the scope of service industries was broadened in 1967, 1977, and 1987. The Census of Transportation began in 1963 as a set of surveys covering travel, transportation of commodities, and trucks. New for 1987 are publications reporting on business establishments engaged in several transportation industries, paralleling the data on establishments in

other sectors. This is part of a gradual expansion in coverage of industries previously subjected to government regulation. The Survey of Minority-Owned Business Enterprises was first conducted as a special project in 1969 and was incorporated into the economic censuses in 1972 along with the Survey of Women-Owned Businesses.

Economic censuses have also been taken in Puerto Rico since 1909, in the Virgin Islands and Guam since 1958, and in the Northern Mariana Islands since 1982.

Statistical reports from the 1982 and earlier censuses provide historical figures for the study of long-term time series, and are available in some large libraries. All of the census data published since 1967 are still available for sale on microfiche from the Census Bureau.

AVAILABILITY OF MORE FREQUENT ECONOMIC DATA

While the censuses provide complete enumerations every 5 years, there are many needs for more frequent data as well. The Census Bureau conducts a number of monthly, quarterly, and annual surveys, the results of which appear in publication series such as *Current Construction Reports* (building permits, housing starts, and value of new construction put in place), *Current Business Reports* (retail and wholesale trade and service industries), the *Annual Survey of Manufactures*, *Current Industrial Reports*, and the *Quarterly Financial Report*. Most of these surveys, while providing more frequent observations, yield less kind-of-business and geographic detail than the censuses. The *County Business Patterns* program offers annual statistics on the number of establishments, employment, and payroll classified by industry within each county.

SOURCES FOR MORE INFORMATION

More information about the scope, coverage, classification system, data items, and publications for each of the economic censuses and related surveys is published in the *Guide to the 1987 Economic Censuses and Related Statistics*. More information on the methodology, procedures, and history of the censuses will be published in the *History of the 1987 Economic Censuses*. Contact Customer Services for information on availability.

CENSUS OF CONSTRUCTION INDUSTRIES—SCOPE AND CLASSIFICATION

The 1987 Census of Construction Industries covers all employer establishments (establishments with payroll) primarily engaged in contract construction, construction on their own account for sale, or in subdividing real property

into lots as defined in the 1987 Standard Industrial Classification (SIC) Manual.¹ This industrial classification system has been developed by experts on classification in government and private industry under the guidance of the Office of Management and Budget and is in general use among government agencies and among organizations outside the government.

Contract construction—The SIC manual defines construction in three broad types of activity that follow:

1. **Building construction by general contractors or by operative builders**—General building contractors are primarily engaged in the construction of dwellings, office buildings, stores, farm buildings, and other building projects. Operative builders who build on their own account for sale are also included here. However, investment builders who build structures on their own account for rent are classified in Real Estate.
2. **Heavy construction general contractors**—Heavy construction general contractors are primarily engaged in the construction of highways, bridges, pipelines, sewers and water lines, marine construction, power, and petro-chemical plants and other nonbuilding construction projects. Special trade contractors are classified in heavy construction if they are specifically engaged in the following activities: grading for highway and airport runways; guardrail construction; installation of highway signs; asphalt and concrete construction of roads, highways, streets and public sidewalks; trenching, cable laying; conduit construction; underwater rock removal; pipeline wrapping; or land clearing and leveling.
3. **Construction by other special trade contractors**—These contractors include plumbers, painters, carpenters, electricians, brick layers, roofers, etc. For the most part, they perform their work at the site of construction, although they may also have shops where they perform work incidental to the job site.

General contractors in both the building and the heavy construction field usually assume responsibility for an entire construction project, but may subcontract to others all of the actual construction work or those portions of the project requiring special skills or equipment. Special trade contractors may work for general contractors, for other subcontractors, or may work directly for the owner of the property.

In addition to the industries classified in the SIC manual as Construction, this census also includes one industry

classified in the Real Estate area, SIC 6552, Land Subdividers and Developers, Except Cemeteries. These establishments are engaged in subdividing real property into lots and in developing it for sale on their own account.

Each establishment receiving a questionnaire was requested to report the percent of total dollar value of business done for each kind-of-business activity engaged in during 1987. This information was used for the computer assignment of appropriate industry classifications. During this work, various tests were also made using other data reported on the questionnaire. The proportion of construction work to total business was checked to verify that the establishment was primarily in construction. Also taken into consideration were the types of structures worked on during the year and the extent of work undertaken for other contractors.

Construction establishments often engage in various construction activities. It is necessary, however, to assign a single industry code to the establishment based on its major activity. Therefore, the statistics shown for an industry reflect not only the primary activity of the establishments in the industry, but also their secondary activities. The industry reports, however, do present data on the extent of secondary activities.

A revised edition of the SIC Manual was issued in 1987. Minor modifications were made to three industries in the construction sector: SIC 1611, Highway and Street Construction Contractors, Except Elevated Highways; SIC 1629, Heavy Construction Contractors, N.E.C; and SIC 1771, Concrete Work Special Trade Contractors. The extent of these modifications are explained in the specific texts for those industries. "Bridge tables" are also included showing selected data tabulated using both the previous classification system and the 1987 revision.

ESTABLISHMENT BASIS OF REPORTING

The census of construction industries is conducted on an establishment basis. A "construction establishment" is defined as a relatively permanent office or other place of business where the usual business activities related to construction are conducted. With some exceptions, a relatively permanent office is one which has been established for the management of more than one project or job and which is expected to be maintained on a continuing basis. Such "establishment" activities include, but are not limited to estimating, bidding, purchasing, supervising, and operation of the actual construction work being conducted at one or more construction sites. Separate construction reports were not required for each project or construction site.

Companies with more than one construction establishment were required to submit a separate report for each such establishment operated during all or any part of 1987. The census of construction industries figures represent a summary of records for individual establishments rather than for companies. The census tabulations, therefore, differ from those prepared on a company basis.

¹Standard Industrial Classification Manual: 1987. For sale by Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402. Stock No. 041-001-00314-2.

If an establishment engaged in construction and one or more distinctly different lines of economic activity (wholesale or retail trade, service, manufacturing, mining, etc.) at the same place of business, it was requested to file a separate report appropriate to each activity, provided that the activity was of substantial size and separate records were maintained or substantially accurate estimates could be prepared.

If a separate establishment report could not be prepared for each activity, then a construction report was requested covering all activities of that establishment providing that the 1987 value of construction work exceeded the gross receipts from each of its other activities.

Construction businesses with no payroll during 1987 (nonemployers) were not required to file census reports. Tabulation of data for these businesses are based on administrative records and are shown only in U.S. summary publications and the geographic area reports series. Refer to the section on "Sample Design" for details. Foreign construction activities were not included in this census.

SAMPLE DESIGN, ESTIMATION PROCEDURES, AND RELIABILITY OF ESTIMATES

The companies included in the 1987 Census of Construction Industries were identified as part of an operation common to all 1987 Economic Censuses. Construction companies were divided into employers (companies with payroll) and nonemployers (companies without payroll). Statistical information for the employers was obtained in the census by a survey which included all medium size and large employers and a sample of the smaller ones. Census reports were not required from the nonemployers. Statistics on them were obtained from administrative records of other agencies of the Federal Government.

Employer Companies

Developing the sampling frame for employer companies—This operation started with obtaining a list of all construction companies in the active records of the Internal Revenue Service (IRS) which were subject to payment of Federal Insurance Contributions Act taxes. The basic source for this list has been the Internal Revenue Service Business Master File, a comprehensive list of companies engaged in business activities in the United States. The file contains the name, address, and form of ownership of each company and also indicates whether or not the company is subject to the FICA. Each company in this file is assigned a unique employer identification (EI) number which it uses in filing its various reports with the IRS. The Social Security Administration (SSA) maintains a similar list using the same identification numbers, which also contains information on the industrial classification of each company. The Bureau of the Census obtained both of these lists and combined them.

Under special arrangements which safeguarded the confidentiality of the information, the Bureau also obtained administrative records data on payrolls and receipts and added these data to the combined list. The list, thus created from the IRS-SSA information, was a list of employer companies. However, for the 1987 Economic Censuses the basic reporting unit is the "establishment." Therefore, steps were taken to identify the individual establishments of those companies which operate more than one place of business. The information for making this determination was obtained by means of the Company Organization Survey (COS), an annual canvass of all known multiestablishment companies and large single-establishment companies. Thus, the 1987 Economic Census list for single-establishment employer companies was obtained from the IRS-SSA, but the list of establishments of multiestablishment employer companies was obtained directly from those companies in the COS. Refer to the section on "Establishment Basis for Reporting" for details.

In general, the IRS-SSA list provided sufficient industrial classification data to assign a company to the proper economic census, but there were a number of companies for which this information was inadequate or unavailable. A special form, NC-9923, General Schedule, was mailed to all such companies, requesting information on the nature of the company's activities. From the information reported, the company was given an industrial classification code and assigned to the appropriate economic census. Since construction companies found in this way were identified only after the regular census mailing had taken place, they were treated as a supplement to the basic list.

Selecting the employer sample—The sample was designed to provide reliable State and metropolitan area estimates for each construction industry. It consisted of all construction establishments in multiestablishment companies, all single-establishment companies with estimated total employment of 20 employees or more, and a probability sample of single-establishment companies with estimated employment of fewer than 20 employees.

Supplementing the sample were construction companies identified from the NC-9923, General Schedule. Also affecting the sample were the misclassified companies; i.e., companies included in the samples of other trade areas which reported they were construction companies and companies originally classified in construction which reported they were not construction companies.

Of the 533,000 single-establishment employer companies initially classified as construction companies, 147,000 were included in the sample. All of the 13,000 establishments of multiestablishment companies were included in the sample. There was a net increase in the sample of 60,000 establishments resulting from establishments originally unclassified (receiving the NC-9923) or misclassified.

The probability sample of the smaller single-establishment companies was a stratified random sample. Strata were formed from all establishments with the same initial four-digit SIC code, in the same State, in the same metropolitan

area or in the balance of the State, and in the same size class based on estimated total employment. If the four-digit SIC code for an establishment was incomplete, the establishment was placed in a stratum for miscellaneous companies. Because they were small, all companies were included in the sample for the following three industries: SIC 1622, Bridge, Tunnel, and Elevated Highway Construction Contractors; SIC 1795, Wrecking and Demolition Work Special Trade Contractors; and SIC 1796, Installation or Erection of Building Equipment Special Trade Contractors.

Estimation procedures for 1987 and 1982 data—

Since all larger employer companies and some smaller ones were included in the census, sample estimation was required only for the universe of companies not selected with certainty. The published statistics are the totals of the estimates for the sampled companies and the aggregates for the certainty companies. All estimates for 1987 and 1982 published here are simple unbiased estimates of the form:

$$x'_c = \frac{\sum_{i=1}^{n_c} x_i}{n_c}$$

where: x'_c is the simple unbiased estimate of a characteristic for a publication cell.

x_i is the reported value of a characteristic for an individual establishment in the publication cell.

p_i is the selection probability of that firm.

n_c is the number of firms in the sample for the cell.

Data for certain characteristics were reported as a percentage of the dollar value of business done. Before this formula was applied to those characteristics, it was necessary to convert the reported percentages into dollars.

Reliability of employer statistics—Since the estimates for employer establishments in these reports are based on the samples, they are subject to sampling variability and may be expected to differ from results which would have been obtained if a complete census had been taken using the same forms and procedures. The sampling errors shown in the tables were estimated directly from the sample reports, using methods appropriate for the sample design and form of estimation used.

The relative standard error is a measure of sampling variability, i.e., the variation that might occur by chance because only a sample of the population is surveyed. As calculated for this report, the relative standard error also partially reflects the effect of random errors of response and processing, but it does not take into account the effect of any consistent biases due to those types of errors. The chances are about 68 out of 100 that an estimate from the

sample would differ from a complete census by less than the relative standard error. The chances are about 95 out of 100 that the difference is less than twice the relative standard error and about 99 out of 100 that it is less than 2-1/2 times the relative standard error. Individual estimates with large relative standard errors have been shown in the published tables. Any such estimates should be used with caution. The very large relative standard errors generally occur for the smaller estimates.

Relative standard errors have been calculated for all of the published statistics, although they are shown for each statistic only in the tables presenting detailed statistics. Other tables show relative standard errors only for certain characteristics because of lack of space.

As calculated for this report, the relative standard error measures certain nonsampling errors, but does not measure any systematic biases in the data. Bias is the difference, averaged over all possible samples with the same size and design, between the estimates and the true value being estimated. Nonsampling errors can be attributed to many sources: inability to obtain information about all cases in the sample; definitional difficulties; differences in interpretation of questions; inability or unwillingness of respondents to provide correct information; and errors made in processing the data. Although no direct measurements of the biases have been obtained, it is believed that most of the important response and operational errors were detected in the course of reviewing the data for reasonableness and consistency.

A potential source of bias is in the imputation for those establishments that have not responded by the time of final publication. Data were estimated for establishments that did not report by that date, although selected establishments were contacted again to obtain as much information on the telephone as possible. Some publication cells in which more than 40 percent of the data were not reported have been suppressed.

Nonemployer Companies

As described earlier, the information derived from the business income tax returns of all companies was matched to the census employer file on the basis of common identification numbers. Those business income tax returns which could not be matched, were further classified on the basis of several characteristics. Returns with characteristics consistent with companies without payroll were treated as nonemployers. The nonemployer construction companies were not required to file census reports.

For "number of establishments," each separate income tax return was assumed to be an establishment. "All business receipts" was based on receipts information reported on the tax return.

Since no sampling was involved in the nonemployer establishments, the statistics for nonemployers are not subject to sampling variability. However, these data are subject to an unknown amount of reporting and processing errors which could not be detected by the Census Bureau.

CENSUS REPORT FORMS

Information for the 1987 Census of Construction Industries was obtained from employer establishments primarily through the use of twenty-four questionnaires, determined by industry classification and size. Standard forms and short forms were developed for each of the following SIC groups: 15, 16, 171, 172, 173, 174, 175, 176, 177, 178, and 179 and for the establishments classified in SIC 6552. Establishments with 50 or more employees all received the standard form. A sub-sample of establishments with fewer than 50 employees received short forms instead of the standard forms. The short forms covered only major items and omitted some of the detail found in the longer forms.

In reviewing and developing the questionnaires, comments and recommendations were elicited from construction trade associations and appropriate advisory groups. The Bureau surveyed several thousand firms representing all economic activities to gain insight into the way companies maintain records and to see whether new information could be collected.

DATA PROCESSING

The 1987 census report forms were mailed out in December 1987. They were mailed from and returned to the Census Bureau's Data Preparation Division in Jeffersonville, Ind., where routine editing and coding of the report forms were also accomplished. Collection of these report forms was essentially completed in July 1988.

The returned reports underwent extensive processing. A preliminary edit done at the time of data entry identified obviously deficient reports and reports needing clarification. When necessary, these problems were resolved by further contact with the respondents. Next, the data were transmitted to Census Bureau headquarters near Washington, DC.

Data records, then, underwent a detailed computer review and analysis. The records containing significant problems were referred for further analytical review and, if necessary, contacts were made with the respondents. The computer performed most classification coding (such as industry coding, geographic coding, and size coding), and imputation for missing items or for reports not received in time for tabulation. The imputation was performed on an industry (or industry group)-State (or geographic group) basis using all available response and administrative data.

The data records were then tabulated on an industry basis. Industry totals were subjected to analytical review, and selected statistics were prepared for the preliminary reports. Corrections resulting from this review were made to the computer records and final tabulations were produced.

The review of a preliminary report for an industry often uncovered the need for corrections or revisions to the data for another industry for which a preliminary report had already been published. The final reports incorporate all

revisions and corrections made during the review of the preliminary reports and contain considerable more data than were published in those reports.

GEOGRAPHIC CLASSIFICATION

Information for the 1987 Census of Construction Industries' final industry report series is classified on the basis of two types of geographic distributions: (1) physical location of the establishment, and (2) location of construction work. A separate code was assigned on each basis allowing us to present data by both physical locations of the establishment and location of construction work.

The geographic area reports series presents similar data by industry for each State (physical location of the establishment) and for selected MSA's, CMSA's and PMSA's.

DUPLICATION IN VALUE OF CONSTRUCTION WORK

The aggregate of value of construction work reported by all construction establishments in each of the several industry, geographic area, or other groupings in this census, contains varying amounts of duplication, since the construction work of one firm may be subcontracted to other construction firms and also be included in the subcontractors' value of construction work. To avoid this duplication, a "net" value of construction work figure has been derived for each establishment by subtracting the costs for construction work subcontracted to others from the value of construction work.

Duplication in value of business between other construction and nonconstruction industries, results from the use of products of these other industries as input materials by construction establishments. "Value added," avoids this duplication and is, for most purposes, the best measure for comparing the relative economic importance of industries or areas. "Value added," is defined in the 1987 Census of Construction Industries as equal to dollar value of business done less costs for construction work subcontracted to others and payments for materials, components, supplies, and fuels. However, for SIC 6552 and SIC 1531 where land receipts are significant, land receipts are also subtracted from dollar value of business done.

SPECIAL TABULATIONS

Special tabulations of data collected in the 1987 Census of Construction Industries may be obtained on computer tape or in tabular form. The data will be in summary form and subject to the same rules prohibiting disclosure of confidential information (including name, address, kind of business, or other data for individual business establishments or companies) as are the regular publications.

Special tabulations are prepared on a cost basis. A request for a cost estimate, as well as exact and detailed specifications of the type and format of the data to be provided, should be directed to the Chief, Construction Statistics Division, Bureau of the Census, Washington, DC, 20233.

To discuss a special tabulation before submitting specifications, call 301-763-7546.

COMPARABILITY OF CENSUS OF CONSTRUCTION INDUSTRIES DATA WITH OTHER DATA

Data contained in the reports of the 1987 Census of Construction Industries are not the same as the data published in the Census Bureau's monthly Construction Reports, Series C30, Value of New Construction Put in Place. The main difference is that the C30 series covers all new construction put in place without regard to who is performing the construction activity, whereas the construction census figures cover both new construction and maintenance and repair work done by establishments classified in the construction industry. Significant amounts of construction are done by establishments classified outside of construction (in real estate, manufacturing, utilities and communications, for example), both as "force account" construction and construction done for others. In addition, the value in place series includes construction-related expenses such as architectural and engineering costs and the costs of materials supplied by owners which are normally not reflected in the Census of Construction.

Data contained in the reports of the census of construction industries may also differ from industry data in "Employment and Earnings Statistics," published by the Bureau of Labor Statistics, and "Statistics of Income," published by the Internal Revenue Service. These differences arise from varying definitions of scope, coverage, timing, classification, and methodology.

ABBREVIATIONS AND SYMBOLS

The following abbreviations and symbols are used in this publication:

- * Sampling error exceeds 40 percent.
- ** Represents the sum of all employees during pay periods including 12th of March, May, August, and November, divided by 4.
- Represents zero.
- † Represents value of construction work less costs for construction work subcontracted to others. (See Duplication in Value of Construction Work.)
- †† Represents dollar value of business done less costs for construction work subcontracted to others, and costs for materials, components, supplies, and fuels. In SIC's 1531 and 6552, land receipts are also subtracted from dollar value of business done. (See Duplication in Value of Construction Work.)
- (D) Withheld to avoid disclosing data for individual companies; data are included in higher level totals.
- (NA) Not available.
- (S) Withheld because estimate did not meet publication standards on the basis of either the response rate, associated relative standard error, or a consistency review.
- (W) Greater than zero but less than 1 percent.
- (X) Not applicable.
- n.s.k. Not specified by kind.

Users' Guide for Locating Statistics in This Report by Table Number

Statistics	For U.S.	By State	By employment size	By size class of dollar value of business done	By type, class, ownership, kind of business, and location of construction ¹	By specialization in types of construction
Assets and depreciation (gross book value):						
Beginning of year—buildings, machinery and equipment.....	3					
End of year—total.....	1, 3	1	5	6		
End of year—buildings, machinery and equipment.....	3					
Depreciation charges during year—buildings, machinery and equipment.....	3					
Capital expenditures:						
Total capital expenditures.....	1, 3	1	5	6		
New buildings—machinery and equipment.....	3					
Used buildings—machinery and equipment.....	3					
Communication services, costs for.....	2					
Employees:						
All employees—average number.....	1, 2	1	5	6		8
Construction workers—average number.....	1, 2, 9	1, 9				
Other employees—average number.....	2					
Employer costs for fringe benefits—legally required and voluntary expenditures.....	2					
Establishments—number in business during year.....	1, 2, 4, 9	1, 9	5	6		8
Hours—construction workers:						
Total.....	1, 2, 9	1, 9	5	6		
Quarterly.....	2, 9	9				
Inventories.....	4					
Materials, components, supplies, and fuels—costs for.....	1, 2	1	5	6		
Payroll:						
First quarter, all employees.....	2					
Annual:						
All employees.....	1, 2	1	5	6		8
Construction workers.....	1, 2	1				
Other employees.....	2					
Power, fuels, and lubricants—costs for.....	2					
Proprietors and working partners.....	2					
Ratios, State.....	13	13				
Value and receipts:						
Dollar value of business done, total.....	2		5	6	11	
Value of construction work, total.....	1, 2, 4	1	5	6	2, 7, 10	8
For work subcontracted in from others.....	2					
Other business receipts and land receipts ²	2					
Net value of construction work.....	1, 2	1	5	6		8
Value added.....	1, 2	1	5	6		8
Rental costs:						
Total.....	1, 2	1	5	6		
For machinery and equipment.....	2					
For buildings.....	2					
Repairs to buildings and other structures.....	2					
Repairs to machinery and equipment.....	2					
Selected industry ratios.....	12					
Subcontract work to others, costs for.....	1, 2	1	5	6		8

Note: Data for 1982 and earlier years are also available in some of these tables.

¹Type—buildings, roads, etc. Class—new construction; additions, alterations, or reconstruction; or maintenance and repair work. Ownership—private or government owned.

²Land receipts are shown separately for SIC's 1531 and 6552 only.

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Structural Steel Erection Special Trade Contractors

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SUMMARY OF FINDINGS

Establishments classified in this industry are primarily engaged in the erection of structural steel, the placing of concrete reinforcement, structural iron work, and the erection of metal storage tanks. For additional examples, refer to the 1987 Standard Industrial Classification (SIC) Manual published by the Office of Management and Budget, Executive Office of the President.

During 1987, the establishments with paid employees classified in this industry accounted for \$5.0 billion in total dollar value of business. Of this amount, \$4.9 billion were for the value of construction work. These establishments paid out \$1.3 billion for materials, components, and supplies and \$352 million for construction work subcontracted to others. Costs for selected power, fuels, and lubricants for this industry were \$80.0 million. Value added for 1987 was \$3.3 billion.

There were 4,017 establishments with total employment averaging 65,348 during the year. Total payroll for 1987 was \$1.6 billion. Total hours worked by construction workers during the year were 89.5 million hours.

Larger establishments with 20 employees or more, while representing only 20 percent of the total number of employer establishments in this industry accounted for 71 percent of all business done.

A "construction establishment" is defined as a relatively permanent office, or other place of business, where the usual business activities related to construction are conducted. A separate census report was required from each sampled establishment covering domestic operations. Separate reports were not, however, required for each project or construction site.

In 1987, the value of construction work was collected to better measure actual construction activity done during the year. Construction receipts, as reported in earlier censuses, may have included the value of work done before or after the calendar year and may have excluded the value of work in progress during the calendar year. Receipts may have also excluded work done by builders engaged in construction for sale on their own account or for their own use. All dollar values are shown in current dollars for the years specified and have not been adjusted for inflation.

The data in this report are estimated from a sample survey and are subject to sampling variability as well as errors of response and nonreporting. The relative standard error shown in the tables is a measure of sampling variability. Descriptions of the sampling, estimating procedures, and data reliability are included in the Introduction.

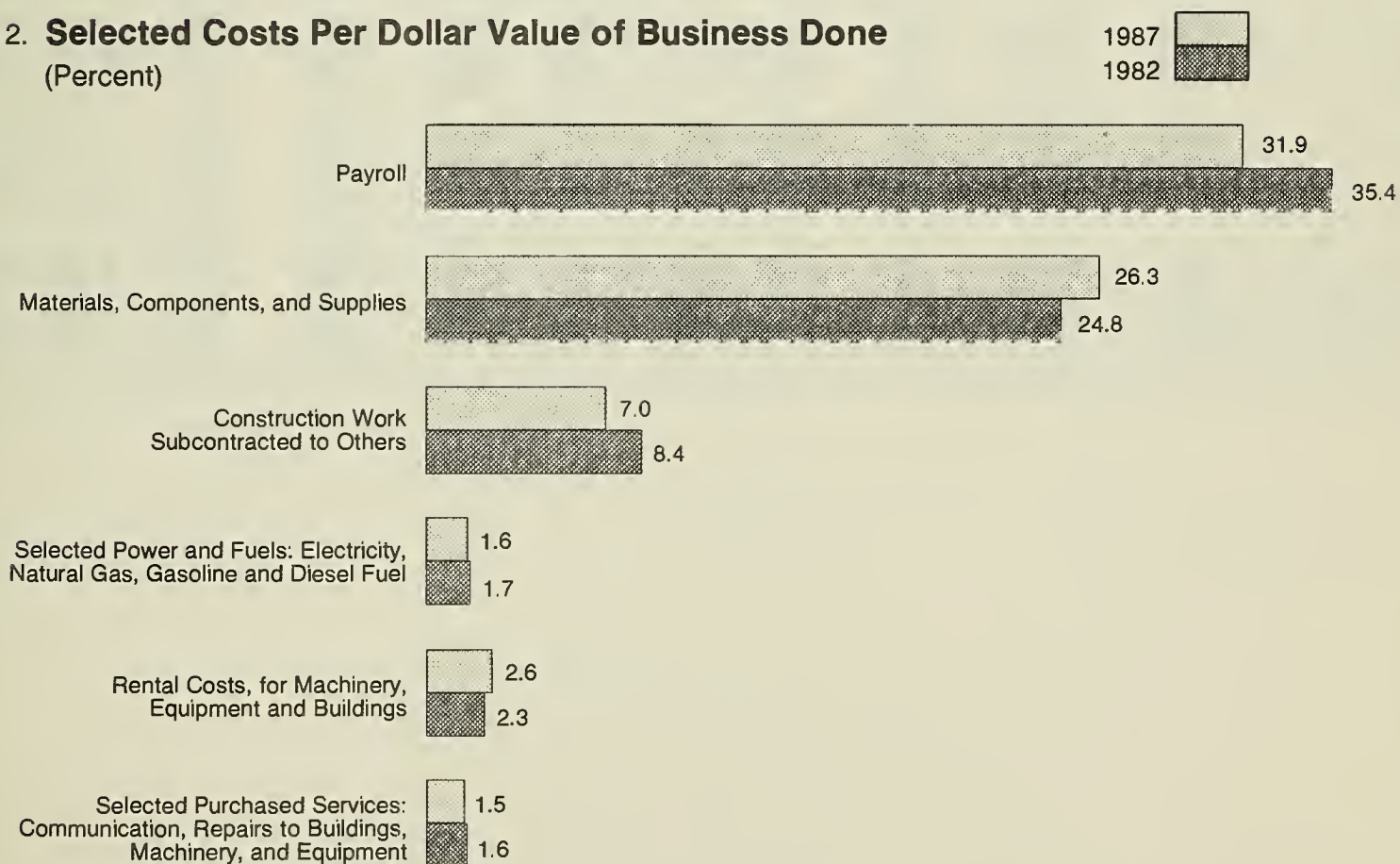
Figure 1. **Value of Construction Work by Type of Construction**

(Percent)



Figure 2. **Selected Costs Per Dollar Value of Business Done**

(Percent)



For meaning of abbreviations and symbols, see introductory text.

Table 1. General Statistics for Establishments With Payroll by State: 1987 and 1982

[Thousand dollars. Detail may not add to total due to rounding. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Location of establishment	1987							
	Number of establishments	Employees**		Payroll		Construction worker hours (thousands)	Value of construction work	Net value of construction work†
		All	Construction workers	All employees	Construction workers			
A	B	C	D	E	F	G	H	
United States	4 017	85 348	54 729	1 593 989	1 231 644	89 451	4 862 855	4 510 231
Alabama	72	799	672	13 438	11 016	964	35 511	33 597
Alaska	24	184	160	4 701	4 401	254	15 134	14 171
Arizona	95	1 237	1 020	27 851	21 228	1 799	84 388	78 840
Arkansas	43	569	446	11 538	8 255	669	31 889	30 245
California	422	8 769	7 163	259 225	193 128	11 377	833 529	766 018
Colorado	67	1 186	976	26 317	20 151	1 509	92 963	78 509
Connecticut	81	1 062	862	29 339	21 938	1 622	89 965	81 028
Delaware	15	314	278	6 752	6 179	432	24 216	23 796
District of Columbia	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Florida	277	3 272	2 748	59 414	47 131	4 657	168 615	154 090
Georgia	144	2 443	2 042	52 568	41 127	3 313	188 780	180 469
Hawaii	*17	458	382	14 435	12 306	653	46 755	45 449
Idaho	19	153	117	3 286	2 598	152	7 877	7 567
Illinois	180	2 839	2 329	81 826	63 511	3 991	240 950	214 675
Indiana	62	1 339	1 164	30 834	24 059	1 624	67 459	64 417
Iowa	23	369	319	7 238	6 172	422	15 548	15 129
Kansas	21	500	422	13 855	11 153	605	31 665	28 182
Kentucky	46	736	603	15 467	12 391	899	54 999	52 225
Louisiana	95	1 134	955	20 135	16 236	1 510	60 587	55 746
Maine	*11	37	30	793	640	*60	*2 308	1 730
Maryland	69	1 788	1 517	41 031	34 226	3 037	112 878	108 357
Massachusetts	111	2 022	1 712	56 116	43 619	2 575	149 182	141 471
Michigan	125	2 262	1 858	63 159	49 059	2 823	219 687	200 135
Minnesota	75	1 401	1 169	41 038	32 002	1 960	126 835	122 174
Mississippi	43	481	408	7 310	5 760	738	21 031	18 557
Missouri	48	1 031	879	24 825	19 889	1 352	64 911	63 122
Montana	*5	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Nebraska	35	190	161	4 067	3 437	354	8 182	8 041
Nevada	19	284	209	8 356	6 087	316	24 831	23 979
New Hampshire	24	357	308	6 909	5 311	530	20 045	18 744
New Jersey	168	2 808	2 345	79 637	61 667	3 843	228 986	218 153
New Mexico	22	174	157	2 994	2 588	239	6 637	6 403
New York	282	4 899	4 050	143 948	102 421	6 539	414 577	392 054
North Carolina	112	1 385	1 134	18 373	14 166	1 932	59 395	51 385
North Dakota	*11	252	216	3 969	3 104	270	13 557	12 826
Ohio	109	2 028	1 695	55 285	40 676	2 787	138 590	131 686
Oklahoma	60	641	542	11 889	9 239	908	39 927	37 683
Oregon	31	524	460	12 891	11 381	776	55 572	(D)
Pennsylvania	139	3 512	3 082	74 578	58 119	4 791	234 520	221 504
Rhode Island	14	162	136	4 323	3 376	239	19 833	19 662
South Carolina	63	648	547	10 230	8 196	602	34 924	32 254
South Dakota	*11	85	73	1 721	1 499	*162	(D)	(D)
Tennessee	101	1 461	1 286	29 027	23 771	2 314	75 157	69 996
Texas	299	4 916	4 223	103 258	80 428	7 267	305 417	286 301
Utah	26	483	415	11 889	9 946	688	58 887	43 953
Vermont	10	126	98	2 709	2 056	151	9 174	9 120
Virginia	109	1 896	1 607	42 027	33 344	2 792	150 433	139 983
Washington	60	975	799	25 136	20 367	1 376	81 263	75 927
West Virginia	23	191	160	3 888	3 025	209	10 555	8 809
Wisconsin	58	799	859	21 593	16 989	1 143	66 489	62 990
Wyoming	13	92	72	1 838	1 473	147	6 706	6 371

†In earlier censuses, construction receipts only were collected. In 1987, the value of construction work was collected to better measure actual construction activity done during the year.

1987—Con.						1982			Relative standard error of estimate (percent) for column—			Location of establishment
Value added††	Cost of materials, components, supplies, and fuels	Cost of construction work sub-contracted to others	Rental cost for machinery, equipment, and buildings	Capital expenditures, other than land	End-of-year gross book value of depreciable assets	All employees**	Total construction receipts¹	Value added††				
I	J	K	L	M	N	O	P	Q	B	H	M	
3 253 345	1 398 113	352 424	128 315	71 250	654 807	61 588	3 540 666	2 376 184	1	1	3	U.S.
23 814	10 863	1 913	431	689	3 287	1 298	51 633	34 088	10	7	36	AL
11 204	(D)	963	743	(D)	(D)	(S)	(S)	(S)	5	7	(D)	AK
58 860	25 747	5 547	1 877	1 157	13 260	1 132	65 487	41 290	7	5	16	AZ
18 806	11 987	1 644	458	*658	6 352	362	19 030	11 719	14	16	48	AR
508 363	280 097	67 511	17 966	7 774	72 817	6 960	522 585	323 143	2	1	5	CA
52 324	31 001	14 454	2 839	2 026	14 819	811	44 206	30 987	7	6	8	CO
50 868	32 566	8 936	2 370	1 306	13 856	867	82 674	32 715	6	4	7	CT
17 217	(D)	420	210	532	5 657	150	(D)	(D)	9	3	24	DE
(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	DC
113 792	43 301	14 525	4 978	4 766	33 178	3 581	167 130	108 045	5	6	16	FL
123 074	62 654	8 310	4 535	1 481	28 649	1 237	55 466	44 071	4	2	18	GA
35 178	(D)	1 306	*625	658	8 725	675	48 793	34 071	9	7	12	HI
6 195	1 999	*310	*460	*345	*873	111	7 077	2 210	34	23	62	ID
160 461	64 953	26 275	6 674	2 970	35 033	2 794	173 605	121 914	4	3	12	IL
52 213	13 603	3 042	1 750	1 401	11 524	964	50 449	37 503	9	5	10	IN
14 160	2 501	419	505	*130	5 837	397	22 388	13 511	13	7	48	IA
24 090	(D)	3 483	1 146	802	6 826	465	23 276	14 787	(W)	(W)	16	KS
35 287	18 881	2 774	1 048	548	4 849	592	30 876	21 306	8	8	7	KY
38 833	18 878	4 841	1 312	375	14 913	1 783	85 306	55 544	6	10	23	LA
1 455	323	(S)	(S)	(S)	(S)	*65	1 677	1 208	31	33	(S)	ME
85 322	25 899	4 520	1 692	3 069	16 076	1 229	49 449	37 873	3	2	8	MD
110 820	33 729	7 711	6 513	1 988	19 280	1 020	35 401	26 211	4	6	15	MA
143 815	58 886	19 552	5 084	2 569	15 729	2 667	127 081	84 852	3	3	6	MI
83 232	40 837	4 661	1 938	1 608	14 778	1 107	48 318	39 547	4	8	17	MN
12 946	7 030	*2 474	*434	169	4 353	845	30 410	19 290	14	18	35	MS
46 720	17 027	1 788	1 719	775	5 815	(S)	(S)	(S)	4	2	13	MO
(D)	(D)	(D)	(D)	(D)	(D)	160	(D)	(D)	(D)	(D)	(D)	MT
6 545	(D)	*140	259	(D)	2 136	177	7 801	4 812	21	23	(D)	NE
14 693	13 049	852	438	221	4 434	652	44 128	30 363	5	2	15	NV
15 766	3 284	1 301	1 186	971	*9 986	(S)	(S)	(S)	12	19	32	NH
176 422	49 728	10 833	7 704	4 525	33 870	2 265	146 112	106 669	4	4	4	NJ
4 736	1 989	234	(D)	(D)	1 515	237	11 395	8 357	12	15	(D)	NM
276 622	121 675	22 523	10 074	5 001	36 541	2 496	173 935	122 164	3	2	12	NY
37 878	15 295	8 010	1 966	3 468	19 748	849	29 037	20 052	8	10	39	NC
7 968	(D)	*730	*152	343	*3 588	160	12 502	6 360	8	11	22	ND
96 145	40 440	6 903	3 700	1 978	12 164	2 371	141 943	78 589	3	5	13	OH
26 582	11 803	2 244	725	732	8 567	1 080	59 919	40 668	14	17	14	OK
28 528	14 075	(D)	1 826	651	4 123	(S)	(S)	(S)	5	(D)	7	OR
164 159	63 640	13 016	6 148	3 251	25 966	4 663	313 922	209 603	3	2	9	PA
18 505	(D)	170	280	196	1 589	241	9 078	7 278	11	5	12	RI
23 962	9 410	2 670	938	959	6 348	580	23 623	16 791	18	11	15	SC
3 925	(D)	484	*283	*174	910	(S)	(S)	(S)	35	(D)	53	SD
55 114	18 745	5 161	2 784	1 822	19 191	1 371	64 308	58 042	5	7	6	TN
232 634	65 279	19 116	10 833	2 842	51 346	7 471	391 466	281 735	3	3	10	TX
26 323	18 184	14 933	1 926	553	12 351	434	39 437	25 254	10	9	18	UT
6 579	2 899	(S)	198	200	4 753	(D)	(D)	(D)	16	17	5	VT
89 538	*54 437	10 450	4 248	2 320	21 364	1 098	74 049	50 948	7	17	9	VA
50 030	(D)	5 335	2 600	660	5 670	772	46 172	36 059	8	5	36	WA
8 459	2 298	1 745	*150	*234	*1 436	374	19 311	11 320	16	10	70	WV
45 206	18 117	3 498	1 860	1 581	8 264	502	24 599	16 382	11	7	6	WI
4 341	(D)	335	142	205	1 639	90	*6 858	3 925	8	5	32	WY

Table 2. Detailed Statistics for Establishments With Payroll: 1987 and Earlier Census Years

[Thousand dollars. Detail may not add to total due to rounding. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Item	1987	1982	1977	1972	Relative standard error of estimate (percent)			
					1987	1982	1977	1972
Number of establishments in business during year	4 017	3 705	2 592	2 760	2	2	3	4
Proprietors and working partners	474	725	732	934	10	8	9	8
All employees**	65 348	61 588	47 166	58 137	1	1	1	2
Construction workers:								
March	52 494	51 042	35 862	45 679	1	1	1	2
May	53 652	52 355	41 138	47 078	1	1	1	2
August	57 794	55 758	44 432	52 770	1	1	1	2
November	54 978	50 354	42 106	52 778	1	1	1	3
Average	54 729	52 645	40 911	49 983	1	1	1	2
Other employees:								
March	10 631	8 904	6 000	7 944	1	1	1	2
May	10 621	(NA)	(NA)	(NA)	1	(NA)	(NA)	(NA)
August	10 460	(NA)	(NA)	(NA)	1	(NA)	(NA)	(NA)
November	10 761	(NA)	(NA)	(NA)	1	(NA)	(NA)	(NA)
Average	10 618	(NA)	(NA)	(NA)	1	(NA)	(NA)	(NA)
Construction worker hours (thousands):								
January to March	20 851	19 311	(NA)	(NA)	1	1	(NA)	(NA)
April to June	22 008	20 183	(NA)	(NA)	1	1	(NA)	(NA)
July to September	23 769	21 500	(NA)	(NA)	1	1	(NA)	(NA)
October to December	22 821	19 601	(NA)	(NA)	1	1	(NA)	(NA)
Total hours worked	89 451	80 596	(NA)	(NA)	1	1	(NA)	(NA)
Payroll, all employees	1 593 989	1 291 214	673 768	637 949	1	1	(W)	1
Payroll, construction workers	1 231 644	1 056 082	556 462	534 094	1	1	(W)	1
Payroll, other employees	362 345	235 132	117 307	103 855	1	1	1	1
First quarter payroll, all employees	360 261	296 023	140 704	(NA)	1	1	(W)	(NA)
Employer costs for fringe benefits, all employees	444 171	271 384	157 225	(NA)	1	1	(W)	(NA)
Legally required expenditures	315 910	199 158	82 023	(NA)	1	1	1	(NA)
Voluntary expenditures	128 261	72 226	75 202	(NA)	1	1	(W)	(NA)
Dollar value of business done	5 003 883	3 649 796	1 882 433	1 496 417	1	1	1	1
Value of construction work ¹	4 862 655	3 540 666	1 803 301	1 457 836	1	1	1	1
Value of construction work subcontracted in from others	2 854 127	2 082 687	972 088	899 234	1	1	1	1
Land receipts ²	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
Other business receipts	141 227	109 130	79 133	38 581	2	1	2	2
Net value of construction work†	4 510 231	3 233 092	1 709 473	1 385 610	1	1	1	1
Value added††	3 253 345	2 376 184	1 184 420	1 012 890	1	1	1	1
Selected costs	1 750 538	1 273 611	698 013	483 527	2	1	1	2
Materials, components, and supplies ³	1 318 112	903 529	574 784	411 301	2	1	1	2
Construction work subcontracted to others	352 424	307 574	93 828	72 226	2	1	2	3
Selected power, fuels, and lubricants	80 001	62 508	29 402	(NA)	1	1	1	(NA)
Electricity	12 184	9 331	5 312	(NA)	2	2	1	(NA)
Natural gas	3 260	3 259	1 109	(NA)	2	2	2	(NA)
Gasoline and diesel fuel	60 043	45 221	19 536	(NA)	1	2	1	(NA)
On highway use	50 011	(NA)	(NA)	(NA)	1	(NA)	(NA)	(NA)
Off highway use	10 031	(NA)	(NA)	(NA)	3	(NA)	(NA)	(NA)
Other, including lubricating oils and greases	4 513	4 695	3 446	(NA)	3	3	2	(NA)
Rental cost for machinery, equipment, and buildings	128 315	83 397	40 058	(NA)	2	1	1	(NA)
For machinery and equipment	100 090	64 903	32 822	34 134	2	1	1	2
For buildings	28 225	18 494	7 236	(NA)	2	2	2	(NA)
Selected purchased services	72 859	57 650	27 858	(NA)	2	1	1	(NA)
Communication services	22 321	16 080	8 253	(NA)	2	2	2	(NA)
Repairs to buildings and other structures	5 378	3 814	1 828	(NA)	4	2	2	(NA)
Repairs to machinery and equipment	45 160	37 755	17 778	(NA)	2	1	1	(NA)
Ownership of construction projects:								
Value of construction work ¹	4 862 655	3 540 666	1 803 301	1 457 836	1	1	1	1
Government owned	1 118 531	604 653	331 237	489 990	2	2	1	1
Federal	279 813	(NA)	(NA)	(NA)	2	(NA)	(NA)	(NA)
State and local	838 717	(NA)	(NA)	(NA)	2	(NA)	(NA)	(NA)
Privately owned	3 744 124	2 936 012	1 472 064	967 846	2	1	1	2

¹In earlier censuses, construction receipts only were collected. In 1987, the value of construction work was collected to better measure actual construction activity done during the year.

²Data were collected separately for establishments classified in SIC 1531, Operative Builders, and SIC 6552, Subdividers and Developers, Except Cemeteries. For all other industries, data are included in other business receipts.

³For 1972, includes data for power, fuels, and lubricants.

Table 3. Assets, Capital Expenditures, and Depreciation for Establishments With Payroll: 1987 and 1982

[Thousand dollars. Detail may not add to total due to rounding. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Item	1987	1982	Relative standard error of estimate (percent)	
			1987	1982
BUILDINGS AND OTHER STRUCTURES, MACHINERY, AND EQUIPMENT				
Beginning-of-year gross book value of depreciable assets	631 687	648 963	2	1
Capital expenditures, other than land	71 250	68 695	3	2
New	54 185	53 424	4	2
Used	17 065	15 271	4	5
Retirements and disposition of depreciable assets	48 131	24 478	4	13
End-of-year gross book value of depreciable assets	654 807	693 180	2	1
Depreciation charges during year	76 477	81 403	2	1
Buildings and other Structures, Additions, and Related Facilities				
Beginning-of-year gross book value of depreciable assets	115 765	105 034	4	2
Capital expenditures, other than land	8 502	12 111	6	2
New buildings and other structures	6 066	10 388	6	3
Used buildings and other structures	2 435	1 722	13	6
Retirements and disposition of depreciable assets	4 839	2 450	17	9
End-of-year gross book value of depreciable assets	119 429	114 694	4	2
Depreciation charges during year	8 697	8 900	3	3
Machinery and Equipment				
Beginning-of-year gross book value of depreciable assets	515 921	543 929	2	1
Capital expenditures, other than land	62 748	56 584	3	2
New machinery and equipment, including automobiles and trucks	48 118	43 036	4	2
New automobiles and trucks, intended primarily for highway use	20 571	14 111	4	5
Used machinery and equipment, including automobiles and trucks	14 630	13 548	4	6
Retirements and disposition of depreciable assets	43 291	22 027	4	14
End-of-year gross book value of depreciable assets	535 377	578 486	2	1
Depreciation charges during year	67 779	72 503	2	1

Table 4. Value of Inventories for Establishments With Payroll: 1987 and 1986

[Thousand dollars. Detail may not add to total due to rounding. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Item	Establishments with payroll	Relative standard error of estimate (percent)
All establishments:		
Number	4 017	2
Value of construction work	4 862 655	1
Establishments with inventories:		
Number	1 127	5
Value of construction work	1 798 181	3
Inventories ¹ :		
End of 1987, materials and supplies	51 020	3
End of 1986, materials and supplies	50 801	5
Establishments with no inventories:		
Number	2 156	4
Value of construction work	1 836 669	2
Establishments not reporting:		
Number	734	6
Value of construction work	1 227 805	1

¹Inventories at cost or market prior to any adjustment to correct to LIFO values.

Table 5. Selected Statistics for Establishments With Payroll by Employment Size Class: 1987 and 1982

[Thousand dollars. Detail may not add to total due to rounding. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Selected statistics	Total	Establishments with an average of—								
		1 to 4 employees	5 to 9 employees	10 to 19 employees	20 to 49 employees	50 to 99 employees	100 to 249 employees	250 to 499 employees	500 to 999 employees	1,000 employees or more
1987										
Number of establishments -----	4 017	(S)	1 038	883	569	166	63	9	5	-
All employees** -----	65 348	(S)	6 918	11 713	17 755	11 124	8 957	2 943	3 163	-
Payroll, all employees -----	1 593 989	(S)	120 544	250 153	460 379	318 430	268 736	75 434	55 711	-
Construction worker hours (thousands) -----	89 451	(S)	7 605	15 659	24 796	16 682	13 093	3 935	4 167	-
Dollar value of business done -----	5 003 883	(S)	422 451	830 300	1 348 421	954 670	781 958	250 293	216 323	-
Value of construction work ¹ -----	4 862 655	(S)	413 035	811 373	1 299 448	918 956	762 855	459 328	(D)	-
Net value of construction work† -----	4 510 231	(S)	378 610	750 373	1 223 121	854 285	683 157	438 240	(D)	-
Value added†† -----	3 253 345	(S)	268 511	514 912	888 567	641 857	496 497	178 696	142 621	-
Cost of materials, components, supplies, and fuels -----	1 398 113	(S)	119 515	254 389	383 526	248 142	205 763	124 211	(D)	-
Cost of construction work subcontracted to others -----	352 424	(S)	34 424	60 999	76 326	64 671	79 698	21 088	(D)	-
Rental cost for machinery, equipment, and buildings -----	128 315	(S)	13 962	21 710	34 063	23 672	20 837	4 195	5 013	-
Capital expenditures, other than land -----	71 250	(S)	7 510	12 354	22 932	12 962	10 073	1 134	(D)	-
End-of-year gross book value of depreciable assets -----	654 807	(S)	61 659	117 818	197 554	128 315	106 691	11 503	(D)	-
1982										
All employees** -----	61 588	2 680	5 701	9 948	14 574	10 622	9 271	8 791	(D)	(D)
Total construction receipts ¹ -----	3 540 666	142 364	265 388	518 349	829 218	658 839	585 850	540 657	(D)	(D)
Value added†† -----	2 376 184	85 078	167 011	320 010	566 697	455 953	398 139	383 295	(D)	(D)
1987 RELATIVE STANDARD ERROR OF ESTIMATE (PERCENT)										
All employees** -----	1	(S)	5	4	1	(W)	(W)	(W)	(W)	-
Net value of construction work† -----	1	(S)	5	4	1	(W)	(W)	(W)	(D)	-
Capital expenditures, other than land -----	3	(S)	20	9	4	(W)	(W)	(W)	(D)	-

Note: Underscored data fields include data from adjoining columns which have been withheld to avoid disclosing data for individual companies.

¹In earlier censuses, construction receipts only were collected. In 1987, the value of construction work was collected to better measure actual construction activity done during the year.

Table 6. Selected Statistics by Size Class of the Dollar Value of Business Done for Establishments With Payroll: 1987 and 1982

[Thousand dollars. Detail may not add to total due to rounding. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Selected statistics	Total	Establishments with dollar value of business done									
		Less than \$25,000	\$25,000 to \$49,999	\$50,000 to \$99,999	\$100,000 to \$249,999	\$250,000 to \$499,999	\$500,000 to \$999,999	\$1,000,000 to \$2,499,999	\$2,500,000 to \$4,999,999	\$5,000,000 to \$9,999,999	\$10,000,000 or more
1987											
Number of establishments -----	4 017	(S)	(S)	(S)	(S)	685	638	617	288	111	72
All employees** -----	65 348	(S)	(S)	(S)	(S)	5 358	7 539	13 618	12 403	8 411	12 074
Payroll, all employees -----	1 593 989	(S)	(S)	(S)	(S)	93 739	159 764	340 012	328 324	226 990	376 501
Construction worker hours (thousands) -----	89 451	(S)	(S)	(S)	(S)	6 891	10 414	18 852	17 418	11 961	17 451
Dollar value of business done -----	5 003 883	(S)	(S)	(S)	(S)	252 762	451 474	994 197	986 871	753 193	1 378 169
Value of construction work ¹ -----	4 862 655	(S)	(S)	(S)	(S)	248 816	443 153	961 404	945 586	721 047	1 357 934
Net value of construction work† -----	4 510 231	(S)	(S)	(S)	(S)	235 399	421 614	894 038	886 497	660 036	1 236 668
Value added†† -----	3 253 345	(S)	(S)	(S)	(S)	173 404	302 070	658 396	671 509	457 502	856 396
Cost of materials, components, supplies, and fuels -----	1 398 113	(S)	(S)	(S)	(S)	65 942	127 865	268 435	256 272	234 680	400 507
Cost of construction work subcontracted to others -----	352 424	(S)	(S)	(S)	(S)	13 416	21 539	67 365	59 089	61 011	121 266
Rental cost for machinery, equipment, and buildings -----	128 315	(S)	(S)	(S)	(S)	9 857	13 662	26 677	23 933	18 021	29 730
Capital expenditures, other than land -----	71 250	(S)	(S)	(S)	(S)	5 944	7 328	17 266	16 093	8 982	10 944
End-of-year gross book value of depreciable assets -----	654 807	(S)	(S)	(S)	(S)	47 116	65 246	171 097	140 818	81 034	116 003
1982											
All employees** -----	61 588	(S)	420	1 077	4 446	6 061	7 852	11 800	9 904	6 676	13 100
Total construction receipts ¹ -----	3 540 666	(S)	9 810	30 039	139 781	235 050	354 283	635 603	594 373	520 916	1 017 903
Value added†† -----	2 376 184	(S)	6 429	19 435	91 900	151 274	234 873	440 271	425 484	332 676	671 832
1987 RELATIVE STANDARD ERROR OF ESTIMATE (PERCENT)											
All employees** -----	1	(S)	(S)	(S)	(S)	6	4	2	1	(W)	(W)
Net value of construction work† -----	1	(S)	(S)	(S)	(S)	6	5	3	3	(W)	(W)
Capital expenditures, other than land -----	3	(S)	(S)	(S)	(S)	14	10	9	3	3	(W)

Note: Underscored data fields include data from adjoining columns which have been withheld to avoid disclosing data for individual companies.

¹In earlier censuses construction receipts only were collected. In 1987, the value of construction work was collected to better measure actual construction activity done during the year.

Table 7. Value of Construction Work for Establishments With Payroll by Type of Construction: 1987 and 1982

[Thousand dollars. Detail may not add to total due to rounding. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Type of construction	Value of construction work ¹				Relative standard error of estimate (percent) for column—			
	Total	New construction	Additions, alterations, or reconstruction ²	Maintenance and repair				
	A	B	C	D	A	B	C	D
1987								
Value of construction work ¹	4 862 655	3 778 867	620 592	235 132	1	1	1	3
Building construction	3 608 424	2 985 155	482 984	140 285	1	1	2	4
Single-family houses	68 448	59 848	6 825	1 774	11	12	24	11
Single-family houses, detached	51 389	45 290	4 697	1 401	14	15	35	12
Single-family houses, attached	17 059	14 558	2 127	373	8	9	4	29
Apartment buildings with two or more apartments	157 515	146 039	8 783	2 692	4	4	4	7
Other residential buildings, including hotels and motels	193 764	173 008	16 126	4 628	2	1	6	18
Hotels and motels	156 890	137 620	14 697	4 572	2	2	6	18
Other residential buildings, excluding hotels and motels	36 873	35 387	1 429	56	2	1	11	40
Office buildings	930 225	832 945	82 321	14 959	1	1	2	4
Other commercial buildings such as stores, restaurants, and automobile service stations	542 481	449 447	75 886	17 147	2	2	3	5
Industrial buildings and warehouses	1 173 121	898 167	200 693	74 260	1	1	2	6
Industrial buildings	882 867	651 255	168 244	63 367	1	2	2	7
Warehouses	290 253	246 912	32 449	10 892	3	3	6	11
Religious buildings	42 482	35 436	5 456	1 589	4	4	7	12
Educational buildings	145 788	107 214	32 832	5 741	3	4	6	13
Hospitals and institutional buildings	182 698	144 191	32 985	5 521	2	2	6	13
Farm buildings	21 707	16 742	2 094	2 870	22	25	25	25
Amusement, social, and recreational buildings	53 207	42 305	10 111	791	8	8	8	10
Other nonresidential buildings	96 983	79 807	8 867	8 308	3	3	14	18
Nonbuilding construction	1 026 168	793 712	137 608	94 847	3	3	3	2
Highways, streets, and related facilities	202 129	162 339	28 998	10 792	3	3	7	4
Bridges, tunnels, and elevated highways	106 293	85 813	18 544	1 935	2	3	2	2
Sewers, water mains, and related facilities	61 466	52 966	4 205	4 295	4	4	2	21
Heavy industrial facilities	189 698	117 913	29 004	42 780	2	2	8	3
Blast furnaces, petroleum refineries, and chemical complexes	131 858	85 932	24 389	21 536	3	2	8	3
Power plants	57 840	31 981	4 614	21 243	3	2	18	5
Power plants, nuclear	9 341	1 032	(D)	(D)	8	27	(D)	(D)
Power plants, except nuclear	48 498	30 948	(D)	(D)	3	1	(D)	(D)
Sewage treatment and water treatment plants	130 957	111 749	16 899	2 308	6	6	7	15
Sewage treatment plants	78 348	67 930	8 803	1 614	4	4	11	22
Water treatment plants	52 609	43 818	8 095	694	12	14	8	9
Water storage facilities	124 902	101 929	10 380	12 591	4	5	(W)	8
Other nonbuilding construction	210 723	161 003	29 578	20 146	8	9	7	14
Construction work, n.s.k.	228 064	(NA)	(NA)	(NA)	4	(NA)	(NA)	(NA)
1982								
Value of construction work ¹	3 540 666	3 093 540	(NA)	447 125	1	1	(NA)	2
Building construction	2 570 814	2 263 909	(NA)	306 904	1	1	(NA)	2
Single-family houses	64 029	44 707	(NA)	19 321	10	10	(NA)	16
Single-family houses, detached	47 753	29 969	(NA)	17 784	9	9	(NA)	17
Single-family houses, attached	16 276	14 738	(NA)	1 537	27	30	(NA)	11
Apartment buildings with two or more apartments	71 053	64 026	(NA)	7 027	3	3	(NA)	14
Other residential buildings, including hotels and motels	75 682	65 516	(NA)	10 166	3	3	(NA)	8
Hotels and motels	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
Other residential buildings, excluding hotels and motels	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
Office buildings	822 859	781 890	(NA)	40 968	1	1	(NA)	3
Other commercial buildings such as stores, restaurants, and automobile service stations	142 679	127 807	(NA)	14 871	2	2	(NA)	6
Industrial buildings and warehouses	1 025 226	843 494	(NA)	181 731	1	1	(NA)	2
Industrial buildings	853 614	688 918	(NA)	164 696	1	1	(NA)	2
Warehouses	171 611	154 576	(NA)	17 034	3	3	(NA)	6
Religious buildings	28 810	26 701	(NA)	2 108	2	2	(NA)	7
Educational buildings	90 153	81 496	(NA)	8 656	4	3	(NA)	28
Hospitals and institutional buildings	115 933	106 009	(NA)	9 924	2	2	(NA)	3
Farm buildings	39 850	35 434	(NA)	4 415	11	13	(NA)	6
Amusement, social, and recreational buildings	44 353	42 446	(NA)	1 907	2	2	(NA)	4
Other nonresidential buildings	50 187	44 383	(NA)	5 810	3	4	(NA)	5
Nonbuilding construction	788 957	673 862	(NA)	115 094	1	1	(NA)	2
Highways, streets, and related facilities	110 014	98 203	(NA)	11 811	2	2	(NA)	2
Power and communication transmission lines, towers, and related facilities	26 440	22 684	(NA)	3 755	8	8	(NA)	8
Blast furnaces, petroleum refineries, and chemical complexes	164 280	111 853	(NA)	52 426	1	2	(NA)	2
Power plants	148 300	135 016	(NA)	13 283	(W)	(W)	(NA)	2
Power plants, nuclear	47 502	45 035	(NA)	2 466	(W)	(W)	(NA)	1
Power plants, except nuclear	100 798	89 980	(NA)	10 817	1	(W)	(NA)	2
Sewage treatment and water treatment plants	71 659	66 926	(NA)	4 732	1	1	(NA)	9
Sewage treatment plants	39 984	36 741	(NA)	3 243	2	2	(NA)	14
Water treatment plants	31 674	30 184	(NA)	1 489	2	2	(NA)	2
Other nonbuilding construction	247 876	221 642	(NA)	26 237	5	6	(NA)	9
Construction work, n.s.k.	180 894	155 768	(NA)	25 126	6	5	(NA)	6

¹In earlier censuses, construction receipts only were collected. In 1987, the value of construction work was collected to better measure actual construction activity done during the year.

²In 1982, data for additions, alterations, or reconstruction were collected separately for SIC 1521, 1522, 1531, 1541, and 1542. For all other industries, data are included with "New construction."

Table 8. Selected Statistics for Establishments With Payroll by Specialization in Types of Construction: 1987

[Thousand dollars. Detail may not add to total due to rounding. This table presents selected statistics for establishments according to degree of specialization in major types of construction work. If number of establishments or value of construction work for a given type of specialization are relatively insignificant, data may not be shown. In addition, data are not shown in this table where distribution of the value of construction work by type of construction was not provided in table 7. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Item	Number of establishments	All employees**	Payroll, all employees	Value of construction work		Net value of construction work†	Value added††	Cost of construction work sub-contracted to others	Relative standard error of estimate (percent) for column—		
				For all types	For specialized type				B	D	H
All establishments	4 017	65 348	1 593 989	4 862 655	2 459 565	4 510 231	3 253 345	352 424	1	1	2
Establishments not specializing by type	1 271	26 586	662 544	1 908 550	(NA)	1 804 215	1 355 483	104 335	1	1	2
Establishments specializing 51 percent or more	2 746	38 762	931 445	2 954 105	2 459 565	2 706 016	1 897 862	248 089	1	1	4
SINGLE-FAMILY HOUSES, DETACHED											
All establishments specializing in type	77	395	7 755	30 723	28 038	29 713	18 657	*1 010	25	26	63
Establishments with —											
100 percent specialization	29	*119	2 376	*10 589	*10 589	*9 924	*6 296	(S)	42	43	(S)
90 to 99 percent specialization	25	163	2 823	11 168	*10 756	11 063	8 396	(S)	35	36	(S)
80 to 89 percent specialization	8	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)
70 to 79 percent specialization	*14	*80	*2 387	*7 206	*5 284	*6 966	*3 372	(S)	67	66	(S)
60 to 69 percent specialization	—	—	—	—	—	—	—	—	—	—	—
51 to 59 percent specialization	—	—	—	—	—	—	—	—	—	—	—
APARTMENT BUILDINGS WITH TWO OR MORE APARTMENTS											
All establishments specializing in type	26	1 086	37 867	107 153	76 692	101 895	61 336	5 258	4	3	(W)
Establishments with —											
100 percent specialization	*13	*40	*1 337	*4 956	*4 956	*4 956	*2 883	—	55	58	—
90 to 99 percent specialization	3	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
80 to 89 percent specialization	5	361	15 499	46 015	36 812	40 757	25 870	5 258	(W)	(W)	(W)
70 to 79 percent specialization	—	—	—	—	—	—	—	—	—	—	—
60 to 69 percent specialization	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
51 to 59 percent specialization	4	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)
OFFICE BUILDINGS											
All establishments specializing in type	328	6 584	183 212	540 500	414 803	516 481	389 455	24 018	3	2	6
Establishments with —											
100 percent specialization	104	1 340	37 541	122 583	122 583	117 544	82 474	5 038	4	4	23
90 to 99 percent specialization	13	460	13 625	43 454	39 932	39 513	30 226	3 940	3	3	(W)
80 to 89 percent specialization	74	1 179	30 849	91 107	73 683	88 439	71 549	2 667	6	6	21
70 to 79 percent specialization	41	999	23 327	63 410	45 858	61 663	45 925	1 746	6	6	3
60 to 69 percent specialization	70	1 739	52 073	160 936	100 931	152 789	108 941	8 146	4	3	6
51 to 59 percent specialization	23	864	25 795	59 008	31 814	56 529	50 338	2 479	11	3	(W)
OTHER COMMERCIAL BUILDINGS SUCH AS STORES, RESTAURANTS, AND AUTOMOBILE SERVICE STATIONS											
All establishments specializing in type	566	5 478	107 608	347 221	291 947	302 358	209 082	44 862	5	4	9
Establishments with —											
100 percent specialization	337	2 460	44 595	145 262	145 262	134 680	94 752	10 582	8	6	5
90 to 99 percent specialization	29	182	6 573	17 401	16 613	(D)	11 637	(D)	22	11	(D)
80 to 89 percent specialization	53	490	10 934	45 314	37 807	37 926	22 340	7 387	9	4	5
70 to 79 percent specialization	80	1 045	24 105	72 986	52 546	61 377	41 638	11 608	10	5	1
60 to 69 percent specialization	53	1 082	15 541	42 668	26 511	34 196	26 810	8 472	8	8	4
51 to 59 percent specialization	11	216	5 858	23 588	13 205	(D)	11 904	(D)	20	28	(D)
INDUSTRIAL BUILDINGS											
All establishments specializing in type	470	8 394	201 656	606 849	508 923	535 129	396 331	71 719	3	2	4
Establishments with —											
100 percent specialization	217	3 262	78 380	236 219	236 219	198 520	156 301	37 698	4	4	4
90 to 99 percent specialization	39	1 129	31 152	69 483	63 400	63 518	48 024	5 965	5	4	1
80 to 89 percent specialization	33	920	16 335	81 048	65 373	74 060	50 384	6 987	8	4	17
70 to 79 percent specialization	88	1 426	34 163	94 028	68 695	80 064	53 481	13 964	6	8	6
60 to 69 percent specialization	47	885	23 416	72 253	45 053	68 090	52 220	4 162	11	11	33
51 to 59 percent specialization	44	770	18 209	53 816	30 180	50 874	35 918	2 941	8	8	17
WAREHOUSES											
All establishments specializing in type	188	1 729	37 825	112 006	91 385	104 608	78 667	7 398	7	7	11
Establishments with —											
100 percent specialization	101	618	12 012	45 331	45 331	42 637	27 496	2 693	13	13	11
90 to 99 percent specialization	*7	*57	*1 080	2 293	2 078	(D)	1 586	(D)	53	27	(D)
80 to 89 percent specialization	10	197	6 005	13 802	11 041	13 463	11 061	339	20	20	36
70 to 79 percent specialization	35	324	6 863	20 701	14 925	18 407	14 569	2 294	15	10	8
60 to 69 percent specialization	26	440	9 555	22 109	13 734	21 555	19 016	554	15	10	25
51 to 59 percent specialization	8	92	2 307	7 769	4 272	(D)	4 937	(D)	19	29	(D)
EDUCATIONAL BUILDINGS											
All establishments specializing in type	30	348	7 175	19 755	13 704	18 489	12 695	1 266	13	18	26
Establishments with —											
100 percent specialization	*5	*14	25	*52	*52	*52	*46	—	44	44	—
90 to 99 percent specialization	3	69	(D)	(D)	(D)	(D)	(D)	(D)	(W)	(D)	(D)
80 to 89 percent specialization	*3	42	1 163	4 102	3 281	(D)	(D)	(D)	40	21	(D)
70 to 79 percent specialization	7	125	3 111	6 864	4 980	(D)	4 899	(D)	27	24	(D)
60 to 69 percent specialization	7	41	(D)	(D)	(D)	2 303	1 815	*72	29	(D)	41
51 to 59 percent specialization	*4	*55	1 148	*5 153	*2 877	(D)	2 723	(D)	45	57	(D)

Table 8. Selected Statistics for Establishments With Payroll by Specialization in Types of Construction: 1987—Con.

[Thousand dollars. Detail may not add to total due to rounding. This table presents selected statistics for establishments according to degree of specialization in major types of construction work. If number of establishments or value of construction work for a given type of specialization are relatively insignificant, data may not be shown. In addition, data are not shown in this table where distribution of the value of construction work by type of construction was not provided in table 7. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Item	Number of establishments	All employees**	Payroll, all employees	Value of construction work		Net value of construction work†	Value added††	Cost of construction work sub-contracted to others	Relative standard error of estimate (percent) for column—		
				For all types	For specialized type				B	D	H
A	B	C	D	E	F	G	H	B	D	H	
FARM BUILDINGS											
All establishments specializing in type.....	46	283	4 240	22 974	18 403	21 078	11 471	1 896	29	26	31
Establishments with —											
100 percent specialization	*21	*91	1 472	9 972	9 972	8 714	3 750	1 258	42	38	39
90 to 99 percent specialization	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
80 to 89 percent specialization	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
70 to 79 percent specialization	—	—	—	—	—	—	—	—	—	—	—
60 to 69 percent specialization	*11	*74	*855	*5 106	*3 218	*5 052	*1 883	(S)	70	65	(S)
51 to 59 percent specialization	10	*75	*1 209	*4 991	*2 622	*4 585	*4 400	(S)	66	63	(S)
HIGHWAYS, STREETS, AND RELATED FACILITIES											
All establishments specializing in type.....	61	1 738	45 540	145 022	124 952	140 981	91 581	4 041	5	5	17
Establishments with —											
100 percent specialization	25	707	18 743	56 582	56 582	56 139	37 564	443	9	8	1
90 to 99 percent specialization	7	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
80 to 89 percent specialization	9	365	9 089	28 749	23 256	(D)	20 051	(D)	9	3	(D)
70 to 79 percent specialization	7	196	4 437	13 611	10 477	13 611	7 662	—	13	7	—
60 to 69 percent specialization	9	235	6 606	14 825	9 781	14 587	11 733	*237	13	9	65
51 to 59 percent specialization	*2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
BRIDGES AND ELEVATED HIGHWAYS											
All establishments specializing in type.....	35	996	31 585	79 916	68 446	70 822	54 490	9 094	6	3	(W)
Establishments with —											
100 percent specialization	*13	242	5 992	9 647	9 647	(D)	6 066	(D)	25	24	(D)
90 to 99 percent specialization	4	285	8 670	36 982	35 035	(D)	25 999	(D)	(W)	(W)	(D)
80 to 89 percent specialization	4	274	9 668	15 699	12 559	(D)	10 992	(D)	(W)	(W)	(D)
70 to 79 percent specialization	10	104	3 507	8 375	5 875	(D)	4 299	(D)	(W)	(W)	(D)
60 to 69 percent specialization	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
51 to 59 percent specialization	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
BLAST FURNACES, PETROLEUM REFINERIES, AND CHEMICAL COMPLEXES											
All establishments specializing in type.....	26	910	22 092	93 401	83 692	82 413	55 117	10 988	6	4	6
Establishments with —											
100 percent specialization	17	498	13 730	57 731	57 731	55 052	41 571	2 679	10	5	26
90 to 99 percent specialization	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
80 to 89 percent specialization	—	—	—	—	—	—	—	—	—	—	—
70 to 79 percent specialization	6	124	2 886	7 346	5 342	7 063	4 708	283	21	23	35
60 to 69 percent specialization	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
51 to 59 percent specialization	—	—	—	—	—	—	—	—	—	—	—

Table 9. Quarterly Construction Worker Hours and Employment for Establishments With

[Detail may not add to total due to rounding. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Location of establishment	Number of establishments	Average number of construction workers	Construction worker hours (thousands)	January to March		April to June	
				Construction workers ¹	Hours worked (thousands)	Construction workers ¹	Hours worked (thousands)
	A	B	C	D	E	F	G
United States	4 017	54 729	89 451	52 494	20 851	53 652	22 008
Alabama	72	672	964	661	211	682	254
Alaska	24	160	254	194	73	145	59
Arizona	95	1 020	1 799	884	373	884	435
Arkansas	43	446	669	435	177	408	157
California	422	7 163	11 377	7 050	2 678	6 909	2 774
Colorado	67	976	1 509	951	365	1 047	434
Connecticut	81	862	1 622	752	349	824	395
Delaware	15	278	432	286	111	292	110
District of Columbia	2	(D)	(D)	(D)	(D)	(D)	(D)
Florida	277	2 748	4 657	2 666	1 096	2 669	1 175
Georgia	144	2 042	3 313	1 985	828	1 990	773
Hawaii	*17	382	653	448	197	374	157
Idaho	19	117	152	92	23	79	*30
Illinois	180	2 329	3 991	2 161	877	2 198	956
Indiana	62	1 164	1 624	1 022	330	1 149	392
Iowa	23	319	422	303	94	309	96
Kansas	21	422	605	375	130	354	123
Kentucky	46	603	899	551	193	651	236
Louisiana	95	955	1 510	1 001	374	964	425
Maine	*11	30	*60	31	*15	(D)	*14
Maryland	69	1 517	3 037	1 477	723	1 492	721
Massachusetts	111	1 712	2 575	1 644	581	1 881	684
Michigan	125	1 858	2 823	1 793	727	1 933	720
Minnesota	75	1 169	1 960	1 104	466	1 180	490
Mississippi	43	408	738	309	160	394	170
Missouri	48	879	1 352	934	333	927	360
Montana	*5	(D)	(D)	(D)	(D)	(D)	(D)
Nebraska	35	161	354	145	71	161	99
Nevada	19	209	316	166	60	249	87
New Hampshire	24	308	530	270	125	298	122
New Jersey	168	2 345	3 843	2 362	923	2 306	931
New Mexico	22	157	239	133	52	146	60
New York	282	4 050	6 539	3 782	1 463	3 881	1 570
North Carolina	112	1 134	1 932	1 068	508	1 038	447
North Dakota	*11	216	270	267	61	334	123
Ohio	109	1 695	2 787	1 489	606	1 735	684
Oklahoma	60	542	908	562	202	507	222
Oregon	31	460	776	403	139	563	249
Pennsylvania	139	3 082	4 791	2 875	1 112	2 955	1 163
Rhode Island	14	136	239	94	37	131	59
South Carolina	63	547	602	596	162	504	125
South Dakota	*11	73	*162	57	30	73	*39
Tennessee	101	1 286	2 314	1 341	551	1 204	543
Texas	299	4 223	7 267	4 154	1 719	4 028	1 771
Utah	26	415	688	357	107	417	171
Vermont	10	98	151	107	43	79	30
Virginia	109	1 607	2 792	1 607	734	1 504	602
Washington	60	799	1 376	784	341	754	330
West Virginia	23	160	209	115	32	160	63
Wisconsin	58	659	1 143	509	219	723	306
Wyoming	13	72	147	75	31	66	32

¹Construction workers during pay periods including 12th of March, May, August, and November.

Payroll by State: 1987

July to September		October to December		Relative standard error of estimate (percent) for column--										Location of establishment
Construction workers¹	Hours worked (thousands)	Construction workers¹	Hours worked (thousands)											
H	I	J	K	B	C	D	E	F	G	H	I	J	K	
57 794	23 769	54 978	22 821	1	1	1	1	1	1	1	1	1	1	U.S.
743	266	605	232	10	17	15	18	11	21	10	17	7	15	AL
184	77	120	43	6	6	5	5	4	3	12	10	8	6	AK
1 168	490	1 144	499	8	11	8	13	8	12	11	11	8	11	AZ
456	167	485	166	14	17	15	21	17	23	13	15	13	14	AR
7 576	3 144	7 120	2 780	2	3	2	4	2	3	2	3	2	3	CA
972	367	932	342	7	7	6	8	6	7	6	6	10	10	CO
985	446	885	430	6	8	6	8	6	8	7	10	6	7	CT
267	104	265	106	8	10	8	10	8	10	9	9	9	10	DE
(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	DC
2 973	1 240	2 683	1 145	5	6	5	7	5	7	5	6	6	6	FL
2 130	874	2 061	837	4	5	3	5	5	6	4	5	7	8	GA
372	151	335	146	6	7	6	7	7	8	6	7	7	7	HI
107	*42	*189	*55	31	38	27	24	35	44	29	41	44	50	ID
2 391	986	2 565	1 170	4	5	4	6	4	6	5	6	3	4	IL
1 397	482	1 089	418	9	8	6	5	8	8	13	12	11	9	IN
354	123	311	107	13	11	14	10	14	11	11	12	12	12	IA
412	144	548	207	(W)	6	(W)	5	(W)	7	(W)	8	(W)	5	KS
638	249	573	219	8	5	9	7	7	5	8	5	8	6	KY
979	389	875	320	6	9	7	10	8	11	7	11	7	9	LA
36	(D)	(D)	(D)	30	41	32	41	(D)	42	33	(D)	(D)	(D)	ME
1 603	803	1 496	789	4	6	4	6	3	6	3	7	4	7	MD
1 790	694	1 534	614	4	5	4	5	4	5	5	7	5	5	MA
1 898	711	1 807	663	3	4	3	4	3	4	3	4	3	4	MI
1 246	503	1 145	500	3	5	3	4	4	6	4	6	4	4	MN
466	211	464	197	14	22	18	24	13	19	12	20	28	30	MS
791	307	867	350	5	5	3	4	4	4	6	6	6	6	MO
(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	MT
151	80	187	103	22	32	22	35	19	30	24	30	26	37	NE
231	93	193	73	4	5	2	3	6	7	8	8	6	3	NV
360	144	303	138	11	23	11	22	9	19	11	25	13	24	NH
2 473	1 021	2 238	967	4	4	4	4	5	5	4	4	4	4	NJ
182	68	168	58	13	15	16	20	14	17	9	14	15	12	NM
4 374	1 774	4 162	1 731	3	4	3	3	3	4	3	4	3	4	NY
1 175	463	1 254	513	8	11	9	13	8	11	8	10	12	14	NC
127	41	135	44	9	9	5	6	6	8	17	26	14	14	ND
1 854	779	1 702	716	3	5	3	5	3	4	3	6	3	6	OH
550	248	547	234	13	15	15	15	12	15	16	18	13	15	OK
445	212	429	175	6	5	6	9	5	6	7	5	8	6	OR
3 284	1 268	3 216	1 246	2	3	2	3	2	3	3	4	3	4	PA
152	69	169	72	13	24	19	38	16	25	9	19	11	20	RI
566	147	523	166	19	20	16	18	20	21	22	22	21	21	SC
*89	*49	*72	*42	38	42	27	31	38	42	43	47	44	46	SD
1 342	614	1 257	605	5	8	6	6	6	9	6	8	6	9	TN
4 453	1 883	4 256	1 893	3	5	3	5	4	5	3	5	3	5	TX
448	227	439	181	10	11	11	10	11	14	8	10	11	9	UT
112	42	93	34	14	3	10	2	16	2	19	3	16	3	VT
1 656	749	1 661	706	7	8	15	20	5	5	5	8	11	9	VA
778	356	882	348	8	9	9	12	10	11	10	11	8	8	WA
187	56	177	56	16	24	15	28	26	37	18	33	18	12	WV
737	325	669	293	8	9	5	6	9	9	11	12	9	10	WI
74	41	71	42	6	24	18	21	5	22	(W)	26	(W)	28	WY

Table 10. Value of Construction Work for Establishments With Payroll by Location of Construction Work: 1987 and 1982

[Thousand dollars. Detail may not add to total due to rounding. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Location of construction work	1987					1982 construction receipts for work done in this State ¹	Percent change 1987 (col A) to 1982 (col F)	Relative standard error of estimate (percent) for column—		
	Value of construction work done in this State ¹	Construction work done by establishments located in this State		Construction work done by establishments not located in this State						
		Number	Value of construction work	Number	Value of construction work					
A	B	C	D	E	F	G	A	C	E	
United States -----	4 862 655	3 932	3 982 261	2 610	880 394	3 540 665	37.3	1	1	3
Alabama -----	60 950	72	31 397	124	29 552	48 240	26.3	12	8	23
Alaska -----	17 292	24	(D)	2	(D)	17 767	-2.7	6	(D)	(D)
Arizona -----	88 457	93	76 339	14	12 118	59 946	47.6	5	6	1
Arkansas -----	29 516	43	26 546	80	2 970	20 056	47.2	13	14	20
California -----	882 016	419	812 147	72	69 869	551 851	59.8	1	1	2
Colorado -----	55 501	65	49 318	21	6 183	58 853	-5.7	10	11	6
Connecticut -----	101 139	79	82 010	53	19 129	80 027	26.4	3	4	6
Delaware -----	20 631	15	15 194	25	5 436	18 330	12.6	3	4	1
District of Columbia -----	18 461	2	(D)	37	(D)	13 283	39.0	1	(D)	(D)
Florida -----	187 223	260	151 285	70	35 938	174 109	7.5	6	7	6
Georgia -----	149 641	144	136 066	127	13 574	54 195	176.1	3	3	8
Hawaii -----	53 371	*17	46 743	*16	6 627	49 987	6.8	7	8	2
Idaho -----	15 396	19	(D)	6	(D)	8 318	85.1	12	(D)	(D)
Illinois -----	252 249	178	211 206	82	41 042	171 733	46.9	3	3	3
Indiana -----	77 207	59	58 585	107	18 622	91 387	-15.5	4	5	9
Iowa -----	19 001	23	10 148	36	8 853	26 623	-28.6	12	4	25
Kansas -----	28 243	21	22 698	32	5 545	23 244	21.5	1	(W)	6
Kentucky -----	46 846	45	28 157	105	18 688	72 910	-35.7	9	14	8
Louisiana -----	75 415	95	55 905	59	19 510	135 626	-44.4	9	12	(W)
Maine -----	16 634	*11	*2 251	26	14 383	2 781	498.1	9	46	7
Maryland -----	84 825	65	66 276	75	18 548	35 431	139.4	3	3	9
Massachusetts -----	184 697	110	127 694	78	57 003	63 007	193.1	4	6	3
Michigan -----	213 555	124	200 634	43	12 920	98 297	117.3	3	3	5
Minnesota -----	123 694	75	112 150	21	11 543	41 774	196.1	8	8	7
Mississippi -----	24 640	43	16 236	40	8 404	32 936	-25.2	16	25	3
Missouri -----	77 534	46	59 289	36	18 244	58 484	32.6	2	3	5
Montana -----	1 857	*5	66	4	1 791	13 843	-86.6	1	38	(W)
Nebraska -----	13 821	34	7 327	31	6 493	15 477	-10.7	14	25	6
Nevada -----	45 579	16	23 220	34	22 359	48 980	-6.9	5	1	11
New Hampshire -----	13 593	22	10 887	49	2 705	8 383	62.1	22	27	20
New Jersey -----	192 414	165	158 893	149	33 521	113 010	70.3	4	5	5
New Mexico -----	8 379	22	6 041	*20	*2 337	11 527	-27.3	18	17	48
New York -----	446 441	277	380 788	73	65 652	190 768	134.0	2	2	3
North Carolina -----	64 835	112	48 720	74	16 114	29 640	118.7	9	12	3
North Dakota -----	12 718	11	10 657	*17	2 060	15 251	-16.6	4	5	4
Ohio -----	164 092	108	127 315	72	36 776	151 519	8.3	4	5	3
Oklahoma -----	36 543	60	29 043	40	7 499	66 786	-45.3	19	23	17
Oregon -----	12 700	28	10 074	21	2 626	38 077	-66.6	13	16	19
Pennsylvania -----	226 898	137	168 692	112	58 205	135 400	67.6	4	3	12
Rhode Island -----	9 709	14	7 917	11	1 791	(D)	(D)	10	12	(W)
South Carolina -----	36 294	62	24 866	88	11 428	24 214	49.9	10	14	12
South Dakota -----	5 696	11	2 482	*16	*3 214	*4 193	35.8	26	28	41
Tennessee -----	77 763	101	58 048	160	19 715	47 629	63.3	7	8	15
Texas -----	230 937	280	218 318	54	12 618	422 520	-45.3	4	4	17
Utah -----	36 317	26	35 538	17	779	38 503	-5.7	11	11	4
Vermont -----	8 292	10	7 253	8	*1 038	(D)	(D)	19	21	49
Virginia -----	120 088	108	91 078	57	29 010	41 526	189.2	5	7	2
Washington -----	104 727	59	(D)	20	(D)	49 345	112.2	4	(D)	(D)
West Virginia -----	25 054	23	9 473	39	15 580	22 120	13.3	5	12	4
Wisconsin -----	53 026	56	50 205	23	2 821	25 097	111.3	7	8	21
Wyoming -----	10 724	13	5 623	15	5 101	11 081	-3.2	3	3	6

¹In earlier censuses, construction receipts only were collected. In 1987, the value of construction work was collected to better measure actual construction activity done during the year.

Table 11. Dollar Value of Business Done for Establishments With Payroll by Kind of Business Activity: 1987 and 1982

[Thousand dollars. Detail may not add to total due to rounding. Based on their primary business activity or combination of activities, establishments were classified into this specific industry. These establishments, however, may also be engaged in other kinds of business activities. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Primary and other kinds of business activities	Dollar value of business done ¹		Relative standard error of estimate (percent)	
	1987	1982	1987	1982
All kinds of business.....	5 003 883	3 649 796	1	1
General building contractor	16 907	14 242	10	19
Heavy construction.....	27 772	18 429	2	8
Concrete construction	8 414	56 324	12	3
Reinforcing steel contractor	933 933	555 235	2	1
Structural steel erection contractor	2 888 258	2 404 282	1	1
Storage tank contractor, metal	230 367	(NA)	11	(NA)
Curtain wall installation contractor	209 561	161 168	2	4
Precast concrete installation contractor	236 869	(NA)	3	(NA)
Glass and glazing contractor	27 972	7 096	1	4
Millwright	53 252	35 538	9	4
Iron work contractor.....	12 875	37 994	14	5
Other construction activities.....	171 114	(S)	6	(S)
Manufacturing	17 923	29 582	7	5
Rental of construction machinery or equipment to others.....	29 294	35 222	7	3
Retail trade	20 750	12 522	5	8
Wholesale trade	11 877	3 641	7	17
Other activities	64 746	(S)	3	(S)
Kind of business activity, n.s.k.	41 999	(S)	6	(S)

¹In earlier censuses, construction receipts only were collected. In 1987, the value of construction work was collected to better measure actual construction activity done during the year.

Table 12. Selected Industry Ratios for Establishments With Payroll: 1987 and 1982

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Selected statistics	1987	1982	Relative standard error of estimate (percent) for 1987
AVERAGE PER ESTABLISHMENT			
Number of employees**	16.3	16.6	2
Number of construction workers	13.6	14.2	2
Number of all other employees	2.6	(NA)	2
Payroll, all employees \$1,000	396.8	348.5	2
Payroll, construction workers do	306.6	285.0	2
Payroll, other employees do	90.2	63.5	2
Dollar value of business done do	1 245.7	985.1	2
Value of construction work ¹ do	1 210.5	955.6	2
Cost of materials, components, supplies, and fuels do	348.0	260.7	2
Construction work subcontracted to others do	87.7	83.0	3
Rental cost for machinery, equipment, and buildings do	31.9	22.5	2
Capital expenditures, other than land do	17.7	18.5	3
Gross book value of depreciable assets do	163.0	187.1	2
AVERAGE PER EMPLOYEE			
Payroll, all employees do	24.4	21.0	(W)
Dollar value of business done do	76.6	59.3	1
Value added†† do	49.8	38.6	1
AVERAGE PER CONSTRUCTION WORKER			
Payroll, construction workers do	22.5	20.1	(W)
Value of construction work ¹ do	88.8	67.3	1
Construction worker hours	1 634.4	1 530.9	1
AVERAGE PER OTHER EMPLOYEE			
Payroll, other employees \$1,000	34.1	(NA)	1
AVERAGE PER DOLLAR VALUE OF CONSTRUCTION WORK¹			
Payroll, all employees	.326	.365	1
Cost of materials, components, supplies, and fuels	.288	.273	1
Cost of construction work subcontracted to others	.072	.087	2
Rental cost for machinery, equipment, and buildings	.026	.024	2

¹In earlier censuses, construction receipts only were collected. In 1987, the value of construction work was collected to better measure actual construction activity done during the year.

Table 13. Selected Industry Ratios for Establishments With Payroll by State: 1987

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Location of establishment	Average number of employees** per establishment	Payroll per employee (\$1,000)	Construction worker hours per construction worker	Value of construction work per construction worker (\$1,000)	Average per dollar of value of construction work			
					Payroll, all employees	Cost of materials, components, supplies, and fuels	Cost of construction work sub-contracted to others	Rental cost for machinery, equipment, and buildings
United States -----	16.3	24.4	1 634.4	88.8	.328	.288	.072	.026
Alabama -----	11.1	16.8	1 434.5	52.8	.378	.306	.054	.012
Alaska -----	7.7	25.5	1 587.5	94.6	.311	(D)	.064	.049
Arizona -----	13.0	22.5	1 763.7	82.7	.330	.305	.066	.022
Arkansas -----	13.2	20.3	1 500.0	71.5	.362	.376	.052	.014
California -----	20.8	29.6	1 588.3	116.4	.311	.336	.081	.022
Colorado -----	17.7	22.2	1 546.1	95.2	.283	.333	.155	.031
Connecticut -----	13.1	27.6	1 881.7	104.4	.326	.362	.099	.026
Delaware -----	20.9	21.5	1 554.0	87.1	.279	(D)	.017	.009
District of Columbia -----	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Florida -----	11.8	18.2	1 694.7	61.4	.352	.257	.086	.030
Georgia -----	17.0	21.5	1 622.4	92.4	.278	.332	.044	.024
Hawaii -----	*26.9	31.5	1 709.4	122.4	.309	(D)	.028	*.013
Idaho -----	8.1	21.5	1 299.1	67.3	.417	.254	*.039	*.058
Illinois -----	15.8	28.8	1 713.6	103.5	.340	.270	.109	.028
Indiana -----	21.6	23.0	1 395.2	58.0	.457	.202	.045	.026
Iowa -----	16.0	19.6	1 322.9	48.7	.466	.161	.027	.032
Kansas -----	23.8	27.7	1 433.6	75.0	.438	(D)	.110	.036
Kentucky -----	16.0	21.0	1 490.9	91.2	.281	.343	.050	.019
Louisiana -----	11.9	17.8	1 581.2	63.4	.332	.312	.080	.022
Maine -----	*3.4	21.4	*2 000.0	*76.9	*.344	*.140	(S)	(S)
Maryland -----	25.9	22.9	2 002.0	74.4	.363	.229	.040	.015
Massachusetts -----	18.2	27.8	1 504.1	87.1	.376	.226	.052	.044
Michigan -----	18.1	27.9	1 519.4	118.2	.287	.268	.089	.023
Minnesota -----	18.7	29.3	1 676.6	108.5	.324	.322	.037	.015
Mississippi -----	11.2	15.2	1 808.8	51.5	.348	.334	*.118	*.021
Missouri -----	21.5	24.1	1 538.1	73.8	.382	.262	.028	.026
Montana -----	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Nebraska -----	5.4	21.4	2 198.8	50.8	.497	(D)	*.017	.032
Nevada -----	14.9	29.4	1 512.0	118.8	.337	.526	.034	.018
New Hampshire -----	14.9	19.4	1 720.8	65.1	.345	.164	.065	.059
New Jersey -----	16.7	28.4	1 638.8	97.6	.348	.217	.047	.034
New Mexico -----	7.9	17.2	1 522.3	42.3	.451	.300	.035	(D)
New York -----	17.4	29.4	1 614.6	102.4	.347	.293	.054	.024
North Carolina -----	12.4	13.3	1 703.7	52.4	.309	.258	.135	.033
North Dakota -----	*22.9	15.8	1 250.0	62.8	.293	(D)	*.054	*.011
Ohio -----	18.6	27.3	1 644.2	81.8	.399	.292	.050	.027
Oklahoma -----	10.7	18.5	1 675.3	73.7	.298	.296	.056	.018
Oregon -----	16.9	24.6	1 687.0	120.8	.232	.253	(D)	.033
Pennsylvania -----	25.3	21.2	1 554.5	76.1	.318	.271	.056	.026
Rhode Island -----	11.6	26.7	1 757.4	145.8	.218	(D)	.009	.014
South Carolina -----	10.3	15.8	1 100.5	63.8	.293	.269	.076	.027
South Dakota -----	*7.7	20.2	*2 219.2	(D)	(D)	(D)	(D)	(D)
Tennessee -----	14.5	19.9	1 799.4	58.4	.386	.249	.069	.037
Texas -----	16.4	21.0	1 720.8	72.3	.338	.214	.063	.035
Utah -----	18.6	24.6	1 657.8	141.9	.202	.309	.254	.033
Vermont -----	12.6	21.5	1 540.8	93.6	.295	.316	(S)	.022
Virginia -----	17.4	22.2	1 737.4	93.6	.279	*.362	.069	.028
Washington -----	16.3	25.8	1 722.2	101.7	.309	(D)	.066	.032
West Virginia -----	8.3	20.4	1 306.2	66.0	.368	.218	.165	*.014
Wisconsin -----	13.8	27.0	1 734.4	100.9	.325	.272	.053	.028
Wyoming -----	7.1	20.0	2 041.7	93.1	.274	(D)	.050	.021



APPENDIX A.

Explanation of Terms

Construction—Is composed of three broad categories:

1. **New construction**—Includes the complete, original erection of structures and essential service facilities and the initial installation of integral equipment such as elevators, and plumbing, heating, and air-conditioning supplies and equipment.
2. **Additions, alterations or reconstruction**—Includes construction activity making structural changes to existing facilities. Generally, this type of activity is considered a capital investment in the property.
3. **Maintenance and repair**—Includes construction done for the purpose of upkeep of property rather than additional investment in the property.

Examples of the general distinction between maintenance and repair and reconstruction are provided here: roof repairs, including the replacement of shingles, gutters, etc., are classified under maintenance and repairs. A complete reroofing, however, is classified as reconstruction.

Number of establishments in business during year—Includes all establishments that were in business at any time during the year. It covers all full-year and part-year operations. Construction establishments which were inactive or idle for the entire year were not included.

Proprietors and working partners—These data were not collected on the census report forms. The data shown are based on crediting each sole proprietorship establishment with one active proprietor and each partnership establishment with two working partners.

All employees—Comprise all full-time and part-time employees on the payrolls of construction establishments, who worked or received pay for any part of the pay period including the 12th of March, May, August, and November. Included are all persons on paid sick leave, paid holidays, and paid vacations during these pay periods. Officers of corporations are included, but proprietors and partners of unincorporated firms are not.

All employees is the sum of all employees during the pay periods including the 12th of March, May, August, and November, divided by 4.

Construction workers—Includes all workers up through the working foreman level directly engaged in construction operations, such as painters, carpenters, plumbers, and electricians. Included are journeymen, mechanics, apprentices, laborers, truck drivers and helpers, equipment

operators, and on-site record keepers and security guards. Supervisory employees above the working foreman level are excluded from this category but are included in the "other employees" category.

Other employees—Includes employees in executive, purchasing, accounting, personnel, professional, technical activities, and routine office functions. Also included are supervisory employees above the working foreman level.

Construction worker hours—Includes the total number of hours worked by construction workers. Construction worker hours were collected for each of the four quarters of 1987.

Payroll—Includes the gross earnings paid in the calendar year 1987 to all employees on the payroll of construction establishments. It includes all forms of compensation such as salaries, wages, commissions, dismissal pay, bonuses, vacation and sick leave pay, prior to such deductions as employees' Social Security contributions, withholding taxes, group insurance, union dues, and savings bonds. The total includes salaries of officers of these establishments, if a corporation, but excludes payments to the proprietor or partners, if an unincorporated concern.

Employer costs for fringe benefits (supplemental labor costs)—Represents expenditures made by the employer during 1987 for legally required and voluntary fringe benefit programs for employees.

Legally required contributions—Include Social Security contributions, unemployment compensation, workman's compensation, and State temporary disability payments.

Voluntary payments—Include life insurance premiums, pension plans, insurance premiums on hospital and medical plans, welfare plans, and union negotiated benefits.

Dollar value of business done comprises the following detail:

Value of construction work done—Includes all value of construction work done during 1987 for construction work performed by general contractors, special trades contractors, subcontractors, and land development and improvement work. Included is new construction, additions and alterations or reconstruction, and maintenance and repair construction work. Also included is the value of any construction work done by the reporting establishments for themselves.

Builders were instructed to include the value of buildings and other structures built or being built for sale in 1987 but not sold. They were to include the costs of such construction plus normal profit. Also included is the cost of construction work done on buildings for rent or lease.

Establishments engaged in the sale and installation of such construction components as plumbing, heating, and central air conditioning supplies and equipment; lumber and building materials; paint, glass, and wallpaper; and electrical and wiring supplies, elevators or escalators, etc., were instructed to include both the value for the installation and the receipts covering the price of the items installed.

Excluded was the cost of industrial and other specialized machinery and equipment which are not an integral part of a structure.

Land receipts—Includes receipts from the sale of land, whether held for sale or sold in connection with the sale of houses and other structures. It excludes the value of any improvements made to the land prior to the sale. (That value was to be included in the value of construction work done.)

Other business receipts—Includes business receipts not reported as value of construction work done or land receipts. The item includes business receipts from retail and wholesale trade, rental of equipment, manufacturing, transportation, legal service, insurance, finance, rental of property and other real estate operations, and other nonconstruction activities. Receipts for separately definable architectural and engineering work for others are also included here.

Excluded was the value of construction work done and receipts from other business operations in foreign countries and non-operating income such as interest and dividends.

Net value of construction work—Derived for each establishment by subtracting the costs for construction work subcontracted to others from the value of construction work done. (For a further explanation see "Duplication in Value of Construction Work" section in the Introduction.)

Value added—Derived for each establishment, value added is equal to dollar value of business done, less costs for construction work subcontracted to others, and costs for materials, components, supplies and fuels. For SIC 6552 and SIC 1531, for which land receipts are significant, land receipts are also subtracted from dollar value of business done. (For a further explanation see "Duplication in Value of Construction Work" section in the Introduction.)

Selected costs—Represents the costs for materials, components, and supplies; costs for construction work subcontracted to others; and costs for selected power, fuels, and lubricants. Capital expenditures and rental costs for machinery, equipment, and structures are shown elsewhere.

Costs for materials, components, and supplies include:

- total costs to reporting establishments during 1987 for the purchase of all materials, components, and supplies, except fuels. (Supplies include expendable tools which are charged to current accounts.)
- freight and other direct charges should represent only amount paid after discounts, and the value of materials, components, and supplies obtained from other establishments of the respondent's company.
- costs for materials, components, and supplies used by the reporting establishments in the construction or reconstruction of buildings/structures for themselves which are chargeable to their fixed assets accounts, are included in this item as are costs for materials bought and resold to others.
- costs made for direct purchases of materials, components, and supplies even though the purchases were subsequently provided to subcontractors for their use.

Excluded from this item are:

- industrial and other specialized machinery and equipment, such as printing presses; computer systems; etc., which are not an integral part of a structure
- materials furnished to contractors by the owners of projects.

Costs for construction work subcontracted to others include:

- all costs during 1987 for construction work subcontracted out to other construction contractors.

Excluded from this item are:

- The costs to the reporting establishment for its purchases of materials, components, and supplies, provided to a subcontractor for his use. Such costs are reported under a separate category, "costs for materials, components, and supplies."
- costs for the rental of machinery or equipment.

Costs for selected power, fuels, and lubricants include:

- costs for fuels, lubricants, and electric energy purchased during the year from other companies, or received from other establishments of the company.
- costs for natural and manufactured gas, fuel oil, coal and coke products, etc.

Rental costs for machinery, equipment, and buildings—Includes all costs during 1987 for renting or leasing construction machinery and equipment, transportation equipment, production equipment, office equipment, furniture and fixtures, scaffolding, office space, and buildings. It

excludes costs for the rental of land. It also excludes costs under agreements which, in effect, are conditional sales contracts such as capital leases. Such costs are included in "capital expenditures."

Selected purchased services—Includes all costs during 1987 for communication services purchased from other companies or from other establishments of the company. It also includes the cost of all repairs made to structures and equipment by outside companies, or from other establishments of the same company. It includes only the cost of that repair necessary to maintain property and equipment. It excludes the cost of improvements that increase the value of property, or the cost of adapting it for another use. Such costs are included in "capital expenditures".

Assets and depreciation—Refers to the original cost of all fixed tangible assets such as buildings and other structures (offices, shops, etc.); stationary machinery (generators, shop equipment, etc.); mobile machinery (tractors, trucks, etc.); and other equipment (office furniture and fixtures, etc.). Not included are such items as current assets, depletable assets, intangible assets, and nondepreciable assets.

Data on assets and depreciation were collected separately for: (1) buildings and other structures, additions, and related facilities; and, (2) machinery and equipment.

Respondents were also asked to report capitalized expenditures, depreciation charges, and the gross value of assets sold, retired, scrapped, destroyed, etc., during 1987.

Capital expenditures—Refers to all costs actually incurred during 1987 which were or would be chargeable to the fixed assets accounts of the reporting establishments and which were of the type for which depreciation accounts are ordinarily maintained. These expenditures cover the acquisition, the construction, and the major alteration of the reporting establishment's own buildings and other structures, whether purchased, constructed under contract, or constructed by the reporting establishment's own forces; and the acquisition of machinery and equipment.

If leasing arrangements met the criteria set down by the Financial Accounting Standards Board (FASB) for a capital lease, respondents were instructed to report the original cost or market value of that equipment or building as a fixed asset and capital expenditure if acquired during 1987.

If capital expenditures were not recorded directly at the establishment level but handled centrally at the company or division level, respondents were requested to report appropriate estimates for the individual establishments.

Inventories—Includes all of the materials and supplies that are owned regardless of where they are held. Excludes materials which are owned by others, but held by the reporting establishment.

Builders who built on their own account for sale were requested to report work in progress and finished units not sold for buildings and other structures built for sale.

Inventories of multi-establishment companies were instructed to be reported by the establishment that is responsible for the inventories even if these inventories were held at a separate location.

Ownership of construction projects—This item shows the distribution of the value of construction work done by ownership of the project, that is, Government owned or privately owned. This classification relates to the ownership of the projects or work undertaken during the construction phase. Government owned projects are shown separately for Federal, and State and local governments.

Value of construction work subcontracted in from others—Includes the value of construction work during 1987 for work done by reporting establishments for other construction contractors or builders. Establishments were asked to report the approximate percent of total value of construction work accounted for by such work, and the percentages reported were applied to the reported value of construction work to develop a value for this item.

Types of construction—This item provides data by the types of buildings, structures, or other facilities being constructed or worked on by construction establishments in 1987. Respondents were instructed that each building, structure, or other facility should be classified in terms of its function. For example, a restaurant building was to be classified in the restaurant category whether it was designed as a commercial restaurant building or an auxiliary unit of an educational institution. If respondents worked on more than one type of building or structure in a multibuilding complex, they were instructed to report separately for each building or type of structure. If they worked on a building that had more than one purpose, i.e, office and residential, or commercial, they were to classify the building by major purpose.

In addition all respondents were requested to report the percentage of the value of construction work done for new construction, additions, alterations, or reconstruction, and maintenance and repair work for each of these types. See the definition of "Construction" for the meanings of these terms.

Building construction:

- **Single-family houses, detached**—Includes all residential buildings constructed for one family use.
- **Single-family houses, attached (include townhouses)**—Includes all residential buildings with two or more living quarters side by side, completely independent of one another, and separated by an unbroken wall from ground to roof.
- **Apartment buildings with two or more apartments**—Includes high-rise, low-rise, or any structures containing two or more housing units (excluding attached single-family houses and townhouses described above).
- **Hotels and motels**—Includes hotels, motels, and tourist cabins intended for transient accommodations.

- **Other residential buildings**—Includes dormitories, fraternity and sorority houses, nurses homes, and other nonhousekeeping residential structures.
- **Office buildings**—Includes all buildings which are used primarily for office space or for government administrative offices. Also included are banks or financial buildings which are three stories or more.
- **Other commercial buildings, such as stores, restaurants, and automobile service stations**—Includes all buildings which are intended for use primarily in the wholesale, retail, and service trades. For example, shopping centers, department stores, drug stores, restaurants, public garages, auto service stations, and one or two story bank or financial institutions.
- **Industrial buildings**—Includes all industrial buildings and plants which are used to house production and assembly activities. Heavy industrial facilities such as blast furnaces, petroleum refineries, chemical complexes, etc., are not included in this category, but under nonbuilding construction.
- **Warehouses**—Includes commercial warehouses, cold storage plants, grain elevators, mini-warehouses, and other such storage buildings.
- **Religious buildings**—Includes all buildings which are intended for religious services or functions, such as churches, synagogues, convents, monasteries, and seminaries.
- **Educational buildings**—Includes all buildings which are used directly in administrative and instructional activities, such as colleges, universities, elementary and secondary schools, correspondence, commercial, and trade schools. Libraries, museums, and art galleries, as well as laboratories which are not a part of a manufacturing establishment, are also included.
- **Hospitals and institutional buildings**—Includes all buildings which are intended to provide hospital and institutional care, such as clinics, infirmaries, sanitariums, nursing homes, homes for the aged, and orphanages.
- **Farm buildings, nonresidential**—Includes nonresidential farm buildings such as barns, poultry houses, implement sheds, and farm silos.
- **Amusement, social, and recreational buildings**—Includes buildings which are used primarily for entertainment, social and recreational activities, such as sports arenas, theaters, music halls, golf and country club buildings, skating rinks, bowling alleys, and indoor swimming pools.
- **Other nonresidential buildings**—Includes nonresidential buildings which are not classified elsewhere, such as fire stations, prisons, civic centers, bus and air passenger terminals and hangars.

Nonbuilding construction:

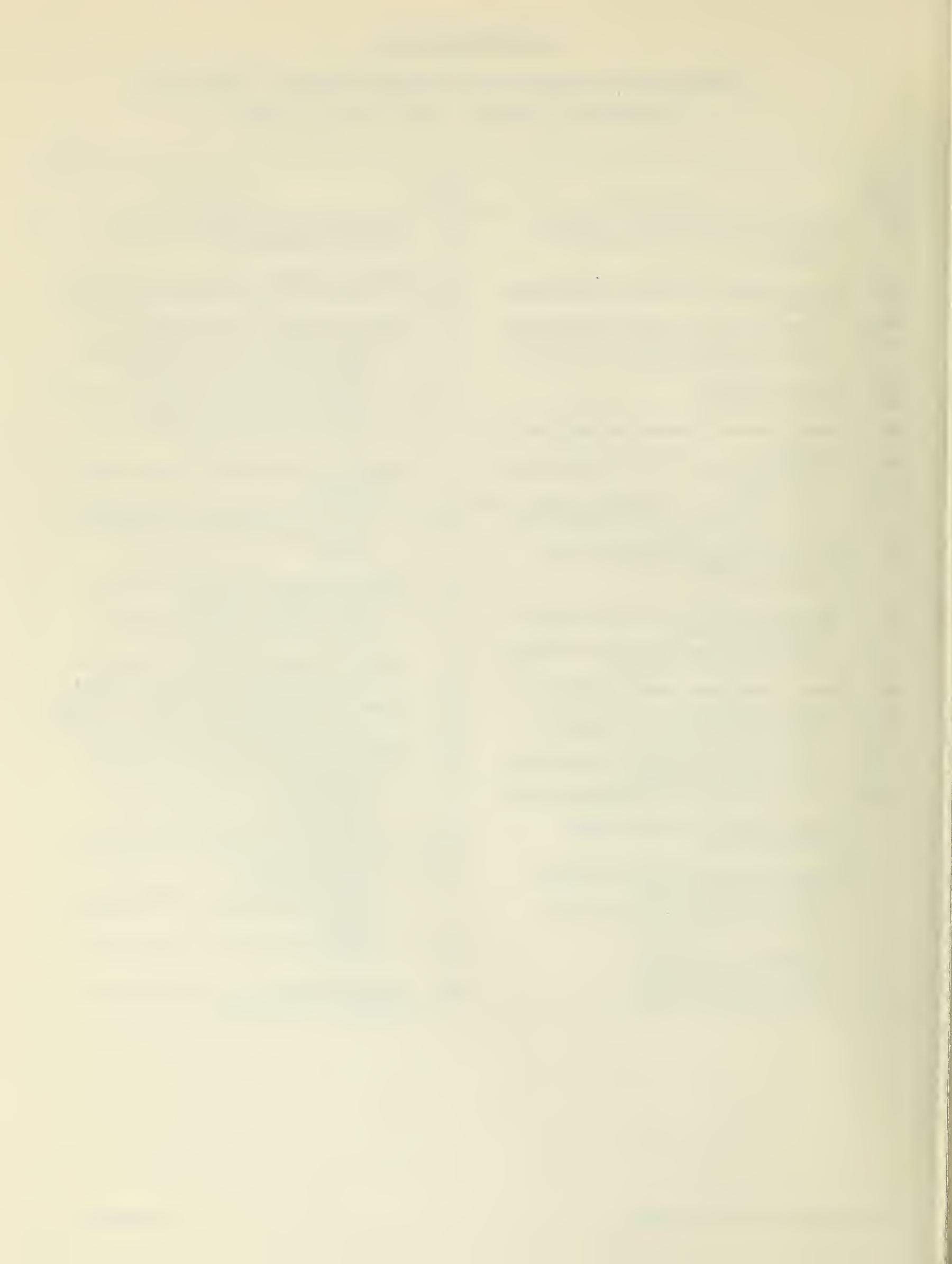
- **Highways, streets and related work, such as installation of guardrails, highway signs, etc.**—Includes streets, roads, alleys, sidewalks, curbs and gutters, culverts, right-of-way drainage, erosion control and lighting. Also includes earthwork protective structures when used in connection with road improvements.
- **Outdoor swimming pools**—Includes wading pools and reflecting pools.
- **Recreational facilities**—Includes athletic fields, golf courses, outdoor tennis courts, trails, and camps.
- **Bridges and elevated highways**—Includes viaducts and overpasses; roads, highways, railroads, and causeways built on structural supports.
- **Tunnels**—Includes highway, pedestrian, and railroad tunnels.
- **Railroad construction**—Includes the construction of railroad beds, tracks, freight yards, and signal towers.
- **Subway construction**—Includes urban mass transit subway systems above or below ground.
- **Dam and reservoir construction**—Includes hydroelectric, water supply, and flood control dams and reservoirs.
- **Marine construction**—Includes dredging, underwater rock removal, breakwaters, navigational channels, jetties, and locks.
- **Harbor and port facilities**—Includes docks, piers, and wharves.
- **Conservation and development construction**—Includes land reclamation, irrigation projects, drainage canals, levees, and flood control projects.
- **Power and communication transmission lines, towers, and related facilities**—Includes electric power lines, telephone and telegraph lines, fiber optic cables, cable television lines, television and radio towers, electric light and power facilities.
- **Power plants, except nuclear**—Includes electric and steam generating plants.
- **Power plants, nuclear**—Includes atomic energy plants, and nuclear reactors.
- **Sewers, sewerlines, and related facilities**—Includes sanitary and storm sewers, and related facilities.
- **Sewage treatment plants**—Includes sewage treatment and waste disposal plants.
- **Water mains and related facilities**—Includes water supply systems and related facilities.

- **Water treatment plants**—Includes water filtration and water softening plants.
- **Pipeline construction other than sewer or waterlines**—Includes pipelines for the transmission of gas, petroleum products, and liquefied gases.
- **Blast furnaces, petroleum refineries, chemical complexes, etc.**—Includes coke ovens, and mining appurtenances such as tipples and washeries.
- **Other nonbuilding construction**—Includes all types of nonbuilding construction, not included elsewhere.

APPENDIX B.

Standard Industrial Classification Titles for Industry Groups and Industries

SIC code	Industry titles	SIC code	Industry titles
15	BUILDING CONSTRUCTION—GENERAL CONTRACTORS AND OPERATIVE BUILDERS	17	CONSTRUCTION—SPECIAL TRADE CONTRACTORS—Con.
152	General Building Contractors—Residential Buildings	173	Electrical Work Special Trade Contractors
1521	General Contractors—Single-Family Houses	1731	Electrical Work Special Trade Contractors
1522	General Contractors—Residential Buildings, Other Than Single-Family	174	Masonry, Stone Work Tile Setting, and Plastering Special Trade Contractors
153	Operative Builders	1741	Masonry, Stone Setting, and Other Stone Work Special Trade Contractors
1531	Operative Builders	1742	Plastering, Drywall, Acoustical, and Insulation Work Special Trade Contractors
154	General Building Contractors—Nonresidential Buildings	1743	Terrazzo, Tile, Marble, and Mosaic Work Special Trade Contractors
1541	General Contractors—Industrial Buildings and Warehouses	175	Carpentry and Floor Work Special Trade Contractors
1542	General Contractors—Nonresidential Buildings, Other Than Industrial Buildings and Warehouses	1751	Carpentry Work Special Trade Contractors
16	HEAVY CONSTRUCTION OTHER THAN BUILDING CONSTRUCTION—CONTRACTORS	1752	Floor Laying and Other Floor Work Special Trade Contractors, Not Elsewhere Classified
161	Highway and Street Construction, Except Elevated Highways	176	Roofing, Siding, and Sheet Metal Work Special Trade Contractors
1611	Highway and Street Construction Contractors, Except Elevated Highways	1761	Roofing, Siding, and Sheet Metal Work Special Trade Contractors
162	Heavy Construction, Except Highway and Street Construction	177	Concrete Work Special Trade Contractors
1622	Bridge, Tunnel, and Elevated Highway Construction Contractors	1771	Concrete Work Special Trade Contractors
1623	Water, Sewer, Pipeline, and Communications and Powerline Construction	178	Water Well Drilling Special Trade Contractors
1629	Heavy Construction, Not Elsewhere Classified	1781	Water Well Drilling Special Trade Contractors
17	CONSTRUCTION—SPECIAL TRADE CONTRACTORS	179	Miscellaneous Special Trade Contractors
171	Plumbing, Heating, and Air-Conditioning Special Trade Contractors	1791	Structural Steel Erection Special Trade Contractors
1711	Plumbing, Heating, and Air-Conditioning Special Trade Contractors	1793	Glass and Glazing Work Special Trade Contractors
172	Painting and Paper Hanging Special Trade Contractors	1794	Excavation Work Special Trade Contractors
1721	Painting and Paper Hanging Special Trade Contractors	1795	Wrecking and Demolition Work Special Trade Contractors
		1796	Installation or Erection of Building Equipment, Special Trade Contractors, Not Elsewhere Classified
		1799	Special Trade Contractors, Not Elsewhere Classified
		6552	LAND SUBDIVIDERS AND DEVELOPERS, EXCEPT CEMETERIES



APPENDIX C.

Geographic Divisions and States

NEW ENGLAND STATES

Connecticut
Maine
Massachusetts
New Hampshire
Rhode Island
Vermont

MIDDLE ATLANTIC STATES

New Jersey
New York
Pennsylvania

EAST NORTH CENTRAL STATES

Illinois
Indiana
Michigan
Ohio
Wisconsin

WEST NORTH CENTRAL STATES

Iowa
Kansas
Minnesota
Missouri
Nebraska
North Dakota
South Dakota

SOUTH ATLANTIC STATES

Delaware
District of Columbia
Florida
Georgia
Maryland

SOUTH ATLANTIC STATES—Con.

North Carolina
South Carolina
Virginia
West Virginia

EAST SOUTH CENTRAL STATES

Alabama
Kentucky
Mississippi
Tennessee

WEST SOUTH CENTRAL STATES

Arkansas
Louisiana
Oklahoma
Texas

MOUNTAIN STATES

Arizona
Colorado
Idaho
Montana
Nevada
New Mexico
Utah
Wyoming

PACIFIC STATES

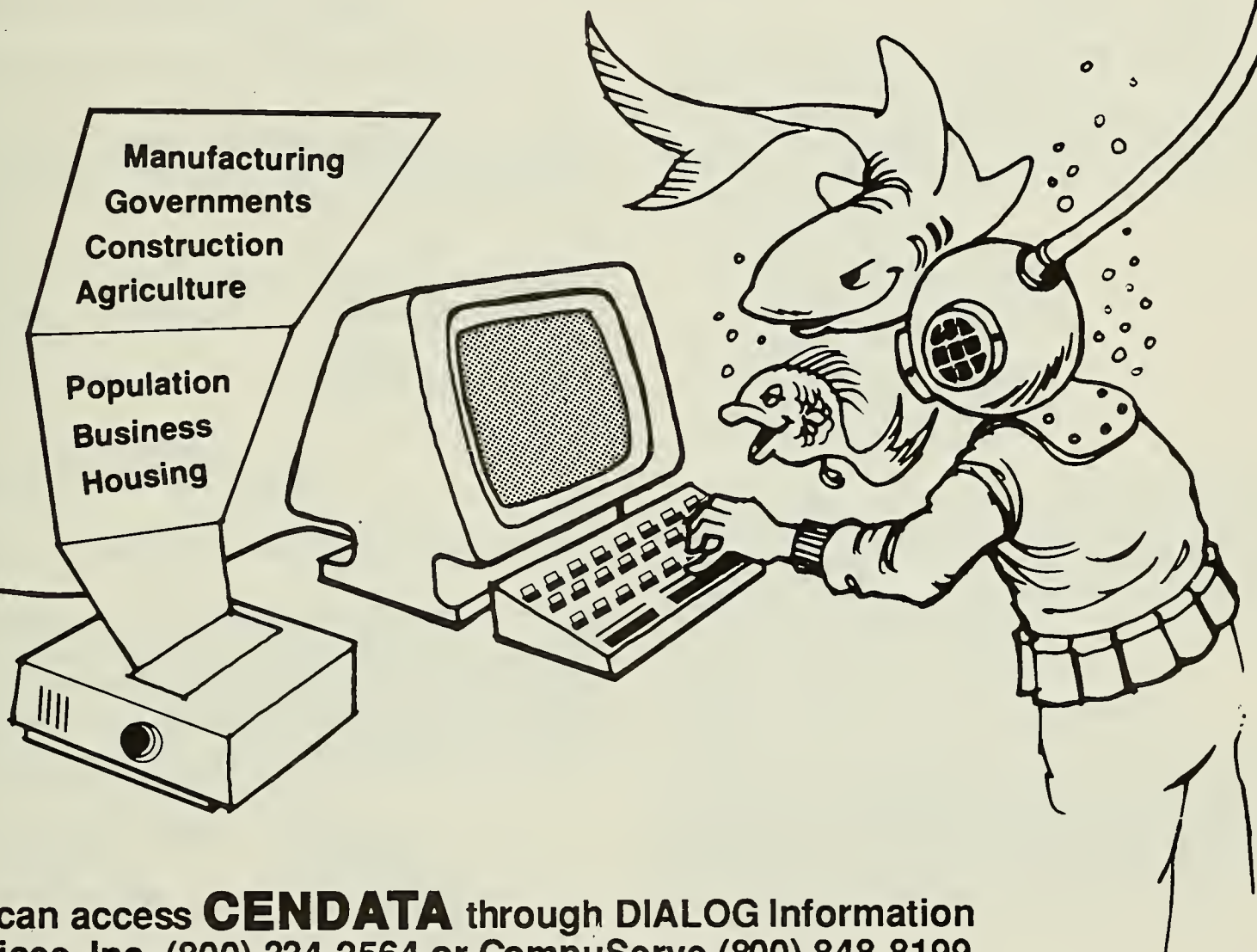
Alaska
California
Hawaii
Oregon
Washington

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PUBLICATION PROGRAM

1987 CENSUS OF CONSTRUCTION INDUSTRIES

The Census of Construction Industries is taken once every 5 years. The census covers all establishments engaged in construction, including:

- Building contractors
- Heavy construction contractors
- Special trade contractors (including plumbers, carpenters, painters, electricians)
- Land developers and subdividers

Data products in the Census of Construction Industries are issued in 4 publication series and in 3 other media:

- Printed reports [P]
- CD-ROM [C]
- Computer tape [T]
- Highlights online [+]

Preliminary Industry Series (CC87-I-1(P) through CC87-I-28(P))

(Available November 1988 through May 1989) [P]

Twenty-seven separate industry reports and a United States summary report, providing national statistics for establishments with payroll. Statistics shown for 1987 include:

- Number of establishments
- Number of employees
- Payroll
- Hours worked
- Value of construction work done, by type of structure
- Selected operating costs

Final Industry Series (CC87-I-1 through CC87-I-28)

(Available June 1989 through November 1989) [P] [C] [T] [+]

Twenty-seven separate industry reports and a United States summary report, providing statistics for the Nation and individual States on establishments with payroll. These reports update figures from the preliminary industry series (employment, payroll, value of construction, etc.) and provide measures of the following:

- Capital expenditures
- Inventories
- Industry profiles
- Assets
- Depreciation
- And much more

Geographic Area Series (CC87-A-1 through CC87-A-10)

(Available January 1990 through March 1990) [P] [C] [T] [+]

Nine reports on the construction industries, representing each census geographic division, and a United States summary report. Regional reports provide detailed data for States and metropolitan statistical areas.

Subject Report—Legal Form of Organization and Type of Operation (CC87-S-1)

(Available May 1990) [P]

One report providing selected national statistics for each industry by legal form of organization and type of operation. This report includes data for establishments with and without payroll. Data in this report include—

- Employment
- Payroll
- Value of construction work done
- Selected operating costs

OTHER ECONOMIC CENSUSES REPORTS

The Census of Construction Industries is part of the 1987 Economic Censuses. These are conducted at five-year intervals in years ending in 2 and 7 and consist of seven separate censuses:

- Census of Retail Trade
- Census of Wholesale Trade
- Census of Service Industries
- Census of Transportation
- Census of Manufactures
- Census of Mineral Industries
- Census of Construction

...plus several related programs: enterprise statistics; information on minority-owned and women-owned businesses; and the Census of Outlying Areas, including separate economic censuses of Puerto Rico and other outlying areas. The Census of Agriculture and Census of Governments are conducted separately.

HOW TO ORDER DATA PRODUCTS

Order forms for the specific reports and other data products may be obtained from Data User Services Division, Customer Services (Publications), Bureau of the Census, Washington, DC 20233. If you have any questions, call Census Customer Services 1-(301)-763-4100.

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Structural Steel Erection Special Trade Contractors

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Industries